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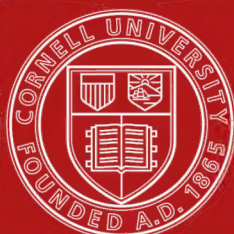
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GOVERNMENT
OF THE
City of Rochester, N. Y.

General Survey
Critical Appraisal
AND
Constructive Suggestions

PREPARED FOR THE
ROCHESTER BUREAU OF MUNICIPAL RESEARCH
BY THE
NEW YORK BUREAU OF MUNICIPAL RESEARCH
MAY-JULY, 1915

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INTRODUCTION.

The study just completed of the organization and administration of the city of Rochester has developed a number of points of unusual interest—among them is the fact that the old style charter which provides for a single executive and a large council is not essentially bad. Years ago this was the prevailing type. Officers became wasteful, if not corrupt and inefficient. The political reformers said—"the charter is at fault, let us have a new charter that will provide for filling the important places by popular election." Officers continued to be wasteful if not corrupt and inefficient. Again the political reformers said—"the charter is at fault, let us have a charter that will provide for government by a small commission." Still in many places the officers continued to be wasteful and inefficient, and political reformers are again saying—"the charter is at fault, let us have a city manager plan."

Rochester holds to the old style of charter—a mayor and a council made up of twenty-three members, one from each ward. The New York Bureau of Municipal Research has made administrative studies in some fifty different local governments and comprehensive studies of twenty-five city governments, and, notwithstanding the fact that Rochester still retains the old type of organization, the results and conditions which were found there are superior to those which have been found in any other city; not that Rochester has a government which is beyond criticism, as there is obvious opportunity and need for improvement. But speaking comparatively, Rochester's government is better organized and better managed than any which has come to the Bureau's notice. It is of interest to consider the elements of difference which seem to account for the superiority.

As shown by Chart "A" in Part 1 of this report, practically all the executive responsibility is in the mayor. Other cities have made similar provision but have not given to the mayor the means of protecting his responsibility. In Rochester the mayor has the means of protecting his responsibility—

First, by having the power to appoint all of the principal department heads, who must be looked to to get things done in an effective manner.

Second, the mayor has the power to prepare and submit the annual budget; he has not a full executive cabinet system—perhaps it would be better if he had—but the budget is prepared by a board of five which is controlled by him.

Third, while the mayor does not meet with the board of aldermen, as would an executive of a private business corporation, the

conditions surrounding the mayor have given to the city government a single-headed leadership which has been effective. There is no doubt it would be better if the mayor did meet with the board and were made directly responsible for leadership in all matters of executive importance, but the unofficial leadership which has developed in the community has been able to secure able men for office and retain the support of an organized citizenship to such an extent that both mayor and council have worked together.

Where other old-type, single-executive, council-managed governments have broken down, this government has held together and done its work well—so well that throughout the departments is found a spirit of loyalty and cooperation, a sense of responsibility and responsiveness of public demand, that is full of encouragement for a future development in the management of city affairs, which may compare well with the average performance of the many great corporate concerns whose personnel make up the rank and file of Rochester's citizenship.

Notwithstanding the fact that a considerable number of recommendations are made herein with respect to further promoting the efficiency and economy of the city's government, it is notable that comparatively few recommendations are necessary with respect to changes in the city's charter. Assuming that Rochester is going to retain its present form of charter—which is very like the charter of an ordinary business corporation—in the order of their importance the five most important recommendations for changes therein are as follows:

First—Charter changes which will permit of a reorganization of the departments of public works and engineering and the establishment of a department of health and charities.

Second—Charter changes which will permit of placing the sinking funds and pension funds of the city on an actuarial basis and so maintaining them.

Third—Charter changes which will permit of moving forward all dates with respect to the assessment of taxes, adoption of appropriation estimates, and collection of taxes sufficiently to enable the budget to be considered and appropriations to be made before the beginning of the fiscal year, thereby affording time in which to prebill taxes, and to make taxes receivable January 1st.

Fourth—Charter changes which will permit of the establishment of a commission on fire prevention.

Fifth—Charter changes which will permit the park department to veto local legislative measures which conflict with the plans adopted by such department.

The five changes above indicated have to do with matters of departmental organization or municipal finance. There is a still more fundamental change that it is thought should be made in order that the present form of government may be more effective. Some means should be provided whereby the mayor may be brought into closer working relation with the council. Every successful business organization which has been developed, which is managed by a chief executive, makes it the duty of the chief executive to attend the meetings of the board. In case the chief executive fails to retain the support of a majority of the board, provision is made for getting the issue before the stockholders. This is a principle of organization and control that has been left out of the charter. There are several ways of providing for such cooperation. It does not seem necessary at this time to do more than call attention to the fact of its omission.

It is believed that the charter changes which are recommended will, if adopted, be of material assistance in the further development of good government in Rochester. The extent of the recommendations made herein which do not involve any changes in the charter should not be taken as an indication that the city's officials are unmindful of the defects which yet remain to be corrected. Without exception they were found very much alive to conditions in their respective departments and apparently desirous of adopting improved methods and procedures.

The work of the officials charged with responsibility for the city's financial affairs—the assessors, comptroller, treasurer and members of the board of estimate—evidences a sincere effort to keep down the cost of government.

The excellence of Rochester's health department under the present commissioner is well known, and the proposed change in departmental organization should result in giving him even broader opportunity for local public service.

Rochester's police force is organized in accordance with the most approved modern plan, and is efficiently managed. Unlike many police departments of the United States, it was apparent that the executive head of the bureau, the chief, with the approval of the commissioner of public safety, had made effort toward providing records which reveal not only the successes of the police but likewise the failures.

While the uniformed force was found to be generally efficient, the results obtained by the members of the detective division do not indicate that the detectives are efficient. To a great extent the present chief has been able to prevent political interference, which accounts for the progress made by the bureau within the last few years, but it

was apparent that the selection of detectives is upon the basis of political preferment.

The activity of officers evidences a progressiveness which was reflected throughout the force. The chief possesses knowledge of approved police procedure, and his conceptions of the functions of the police in carrying out the new policies of the administration in the suppression of vice and in the performance of social service, is in accordance with the most advanced and accepted ideas. That the city was found to be especially free of commercialized vice and that the police officials were vigorous in their efforts to rid the city of the few disorderly saloons and resorts operating, indicates the efficiency of the bureau in enforcing the policy of suppression.

The bureau of fire is properly organized and efficiently managed. While the methods employed in training the firemen are not such as to provide for adequate instruction, the firemen nevertheless appear to understand their work generally and the methods used in fire extinguishment are modern and progressive. The efficiency of the bureau would be greatly increased, however, if the chief were given added powers in the assignment, transfer and promotion of his subordinates, subject to the approval of the commissioner of public safety, and provision made for the establishment of a training school for fire service, and a commission on fire prevention.

Aside from the fact that complete reorganization of the departments of public works and engineering is desirable in order to enable the commissioner of public works better to administer the forces of his department and to establish a better correlation of duties, the fact is obvious to anyone going about the city, as did those engaged on this survey, that the city's streets, public buildings and other public works rank well in comparison with those of other cities.

The park department is newly established and has not yet had opportunity to demonstrate what it can do, but inasmuch as the president of the former park board has been made commissioner of the new department, and both the superintendent and assistant superintendent of the old regime have also been retained, there is every reason to believe that the former high standards in park development will be observed.

Even in the department of charities the criticism of this report is not so much that relief has been inadequate, but that a change of method is needed.

Throughout the entire period of the survey every effort was made by the local officials to cooperate with and facilitate the success of the survey.

I.

SUGGESTIONS WHICH CAN BE MADE EFFECTIVE WITHOUT CHANGE OF THE CITY CHARTER.

Budget Methods.

That the annual budget be made to contain a balance sheet, fund statement, operating statement, explanatory text and work program, appropriation bill, and proposed revenue and borrowing measures.

That comparison of estimates between departments and between years be facilitated by preparing and distributing standard forms to department heads, for their use in submitting estimates of appropriations needed.

That the budget be published in pamphlet form and distributed to the local press, commercial and civic organizations, and others interested in budget matters.

That more publicity be given to public hearings on the budget.

That steps be taken to install proper expense and unit-cost records such as will develop the data needed for efficient budget making.

Board of Contract and Supply.

That the purchasing agent obtain current price quotations as a basis for ordering instead of basing price estimates on past prices, as is the present practice.

That prices be approved by the purchasing agent before the delivery of the order.

That bids be sought from a wider range of dealers, including those beyond the city limits.

That classified lists of supplies purchased be prepared by each city department for use of the appropriating body and for the information of the purchasing agent.

That the purchasing agent keep an office record of supply orders received from the several departments.

That supplies and specifications be standardized, to the end that centralized purchasing may be followed as a regular practice, as contemplated by the charter, and that purchasing in quantities may be facilitated.

That the practice of issuing "split orders" be abandoned.

That supplies for all branches of the city government be tested in the testing laboratory of the city engineer.

Comptroller.

That all accounts with appropriations, funds and properties be centralized in the comptroller's office.

That the appropriation and fund accounting be amplified to include reserves for contract and open market order liabilities.

That appropriation accounts be brought under accounting control of the general ledger.

That a system of expense and unit-cost accounting for all departments be devised and installed.

That the claimants' ledger cards be brought under control of the general ledger, and that entries thereon be so arranged that all open market orders may be distinguished from contract orders.

That the commodity cards, which are used as a basis for checking prices, be kept up to date, and that a file of current trade catalogues be established.

That a properly designed property ledger be installed.

That the audit of claims be made more thorough, as indicated in the text of this report.

That vendors doing business with the city be not required to come to the City Hall twice in order to obtain payment of amounts due them.

That payrolls be not prepared until the end of the period to which they relate, and that the certification of such payrolls be revised.

That time and service reports be installed in all departments and used as a basis for the preparation of payrolls.

That the practice of turning over in cash to the officers in supervision of street and sewer, park and cemetery laborers the amount of the payrolls therefor be discontinued, and that the treasurer or one of his assistants be made disbursing officer for purposes of making such payments.

That a special payroll account be established from which the paymaster will draw checks in payment of the other city employees, instead of requiring the signature of both the comptroller and treasurer of every check.

That the practice of requiring city employees to come to the treasurer's office to obtain their pay checks be discontinued.

That duplicate payrolls be no longer required.

That more consideration be given to the advantages of issuing serial bonds instead of sinking fund bonds.

That the terms of sinking fund bonds hereafter issued be made as nearly coordinate as possible with the life of the asset to be purchased with the proceeds thereof.

Treasurer.

That authority to collect all miscellaneous revenues be centralized in the treasurer.

That a plan be adopted for making deposits in the various banks of the city, whereby the amount of deposits would be governed by the combined capital and surplus and the average total deposits of such institutions.

City Clerk.

That all work incident to the issuing of city licenses be transferred to the treasurer's office, and that one employee be also transferred; that the entire license procedure be simplified.

That the license bureau in the police bureau be abolished, and all inspection for licenses be transferred to the comptroller's office.

That the regulations incident to the granting of licenses to employment agencies and moving picture and theatre licenses be strengthened.

That all licenses be prepared on safety paper, and auditing and accounting control established over all such documents.

That license inspection be facilitated and the clerical work incident to granting licenses be simplified by rearranging the terminal dates of city licenses so that part will terminate at the end of certain months or quarters, and others will terminate at the end of other months or quarters, instead of all terminating at the end of the year as at present.

That an adequate card index plant of outstanding licenses be built up in the comptroller's office, as a basis for collecting more license revenues and as an aid in the regulation of licenses.

That the city clerk's office be moved to the first floor of the City Hall in the quarters now occupied by the accounting division of the water works bureau, and render additional service as a bureau of information and complaints.

Department of Assessment and Taxation.

That the council take action to require the preparation, use and annual publication of land value maps for use of the assessors and for the information of the public and to provide the necessary funds therefor, to the end that the equalization of assessments, as between different sections of the city, may be facilitated. The

assessors should have copies of these maps suitable for use in the field.

That cost schedules be prepared, setting forth for each class of building the factors of cost, to the end that building appraisals may be placed upon a scientific, uniform basis.

That the common council consider the advisability of assembling data as to property values for use in April, 1916, when the annual assessment rolls are presented for confirmation.

That an attempt be made to place taxable household goods upon the rolls so long as they are made taxable by law.

That the assessment basis be raised gradually until the legal requirement of full-value assessment is complied with.

That the assessors prepare and publish an annual report, setting forth their methods and policies, and the elementary principles underlying the assessment of property in Rochester.

That the city be divided into assessment districts of 4,000 parcels in the business section and a maximum of 10,000 parcels in other sections, each district in charge of a competent deputy assessor.

Department of Public Safety.

Office of the Commissioner.

That the chief of the bureau of fire, chief of the bureau of police and the head of the bureau of buildings keep the commissioner of public safety currently advised as to the operations of their respective bureaus through daily reports, which will describe the activities of the respective bureaus during each twenty-four hours.

That a careful investigation be conducted of the character of applicants for appointment to positions in the bureau of police and fire, and that such investigations be reported upon in writing.

That all applicants be required to furnish detailed information concerning their history, which information may be used as a guide to those conducting the character investigations.

That applicants be required to state in their applications whether they have ever been arrested.

That as a protection to the pension fund, all applicants be required to furnish proof of their age.

That all applicants be given a thorough physical examination and athletic test immediately prior to their appointment on probation, and a second examination at the end of their probationary period.

That each policeman and fireman be furnished a certificate of appointment.

That the probationary period of policemen and firemen be six

months, instead of three months as at present, and that superior officers in both the bureaus of police and fire be required to report in writing upon all probationers during their probationary period and at the expiration thereof.

That the efficiency of policemen and firemen be reported upon through the use of efficiency records, which records shall be used by the civil service commission in giving ratings in promotional examinations.

That promotional examinations in the bureau of fire include a practical test, during which test the chief of the bureau shall serve as one of the judges.

That a board of honor be established, and that medals be awarded all policemen and firemen performing meritorious acts of bravery.

That medals be awarded annually to the policemen and firemen making the best suggestions for improving the service during the year.

That the city clerk be required to certify to the commissioner of public safety copies of all new ordinances which in any way affect the department or any of its bureaus.

That the salaries of the probation officers, Italian interpreter and court stenographer be charged against the appropriation for the police court.

That the surgeon for the department be prohibited from having any business relation whatever with members of the police and fire forces, and that he be prohibited from including among his private patients members and their families.

That the surgeon be required to see personally and examine all policemen and firemen reporting "ill," and that the rules prohibit him from accepting certificates of private physicians in lieu of personal examination.

That the surgeon be required to report in writing to the chief of the bureau of police all cases of illness of policemen reported to him, stating among other things the diagnosis, cause and probable duration of the illness. At such times as a policeman is ordered to report for duty, the surgeon should notify the chief of the bureau of police in writing, stating the hour the policeman was directed to report. The practice with regard to firemen should be the same, except that the report should be made to the chief of the bureau of fire.

That the surgeon be relieved of all duties in connection with emergency cases of injuries or sickness to prisoners. Injured prisoners should be attended by ambulance surgeons.

That the surgeon be required to maintain a proper health record of policemen and firemen.

That the surgeon be required to inspect and report upon his inspection of all police stations and firehouses.

That the commissioner of public safety require the surgeon to file a monthly report, which would show in concise form the activities of the surgeon and the health condition of the force during the month.

That the superintendent of the fire and police alarm service be required to maintain unit-cost records, and that his employees be required to file time reports and keep proper record in the form of reports on repairs and construction work.

That the superintendent of fire alarm and police signal service be required to report directly to the chief of the fire bureau concerning the fire alarm service, and to the chief of the bureau of police concerning the police signal service, and that in all matters pertaining to these services he be under the supervision of the respective chiefs.

That all fire alarms received over the telephone be treated in the same manner as if received over the fire alarm box service, and result in dispatching the same amount of apparatus.

That an improved record and reporting system for the office of the commissioner of public safety be established; which system will provide for a definite procedure for the handling of correspondence and complaints, the elimination of certain useless records now maintained, and proper recording and filing of all data and documents concerning the bureaus which compose the department of public safety.

That the secretary of the commissioner be placed in charge of the record and filing division, and review all reports received by the department.

Bureau of Police.

That the chief of police be given added powers with regard to the assignment and transfer of his subordinates and the selection of members of the detective division.

That the chief be required to file with the commissioner a weekly report upon the complaints received and the action taken upon them, which report should be upon a comparative basis.

That the commissioner leave unfilled any vacancies which may occur in the rank of inspector until this rank be abolished by charter amendment.

That pending the abolition of the rank of inspector, the duties of

the present incumbents be so arranged as to provide that one inspector remain on duty from 8 P. M. to 8 A. M. and the other inspector supervise the training school for police service, the establishment of which is recommended.

That all reports be reviewed by the inspectors and their accuracy vouched for by them.

That the inspectors be required by rule to inspect all station houses in their districts at least once a month, and at least once in three months the uniforms and equipment of the patrol force.

That captains be required to spend a greater amount of time in their precincts during the night hours, and that they be required to remain on duty all night, at least on one night of each week.

That the sergeants be required to maintain better discipline on the patrol posts.

That a training school for police service in charge of an experienced police officer be established, and that the course of instruction be for a period of from thirty to ninety days.

That probationary patrolmen be assigned to duty with experienced men.

That the heads of other city departments be invited to lecture at the school.

That the inspector designated to organize the school be permitted to visit the New York or Philadelphia training school for police service to observe the plan of organization, methods of procedure and the records maintained.

That a platoon system be established, which will provide for an adequate reserve force and the alternating of tours of duty of patrolmen, so that each man will be given his share of duty on all tours.

That the patrolmen be rewarded, through efficiency ratings, for promptness and intelligence in reporting conditions upon patrol posts which affect other city departments.

That patrolmen be furnished standard, loose-leaf memorandum books and standard printed forms for reporting conditions observed.

That the daily bulletins of the police force be reduced in size so as to be carried in the memorandum book, and that the material included in the bulletin contain all orders and information which should be furnished the officers and patrolmen each day.

That the uniform and equipment of members of the police bureau be furnished by the city, or at least purchased in such a manner as to result in the members of the force obtaining their uniform at the cost of production.

That policemen be required to carry their revolvers in a holster strapped across the shoulder under the blouse at the left side, instead of in the hip pocket, as at present.

That the policewoman maintain more complete records, and that specially printed cards upon which to record the history of her cases be provided.

That the mounted patrol be abandoned, and that the bureau only retain in service sufficient horses to furnish escorts for parades and for use in riots.

That the policemen now performing duty at the police court, serving as attendants, interpreters and guard to the justice, be returned to patrol duty.

That provision be made for the training of detectives.

That the selection of detectives be made only upon the recommendation of the chief and the captain of detectives, and that the chief have the power, when the interests of the service demand, to remand to patrol duty members of the detective division whose efficiency is not up to the standard.

That all plain-clothes men detailed to precincts be given the title of "precinct detectives," and that they operate under the immediate supervision of the captain of detectives.

That the service in the precinct be used as an apprenticeship for detective duty, and that assignments to the detective division be made from the precinct detectives.

That instead of maintaining four detective districts, as at present, the precinct be made the unit of administration and one member of the detective division be assigned to each precinct. The precinct detective would then operate under the supervision of the detective assigned.

That a definite procedure for the handling of complaints, both at the precincts and at the central office, be provided, which procedure should include provision for a card record of all complaints.

That the records of the detective division be revised.

That all finger-prints be properly classified and filed.

That the pictures in the "rogues gallery" be classified in accordance with the class of criminals, sub-divided according to facial characteristics.

That additional patrolmen be appointed.

That the patrol posts in the suburban districts be shortened.

That police booths, equipped with telephones and to which motorcycle policemen will be assigned, be erected in the suburban sections.

- That the two sanitary officers be transferred to the bureau of health, their salary charged against that bureau and their work supervised by the health officer.
- That the traffic officers be given a thorough course of instruction, and that the traffic sergeant be sent to New York to observe the procedure followed in the supervision and direction of traffic in that city and the method of instructing the traffic officers.
- That a study of the traffic conditions by competent engineers be made with a view to establishing one-way streets, revising the traffic ordinance, and arranging with the street railway companies for a change in the lay-out of their tracks.
- That the practice of relieving all traffic men from duty between 12:15 and 2:15 be abandoned, and that the lunch hours of traffic men be changed so as to permit of their being relieved by other traffic officers and by the sergeant in charge.
- That the commissioner of public safety reduce the cost of janitor service at police stations by providing but one janitor for each station and requiring the janitor to care for the heating and equipment.
- That a study of the causes of inebriety be made, and that such records of arrests for public intoxication as will furnish information to serve the basis of this study be established.
- That uniformed members of the force be relieved of all responsibility for the enforcement of the laws against prostitution and gambling, and required only to report conditions observed.
- That patrolmen be relieved of the duty of inspecting alleged disorderly saloons.
- That detectives and precinct plain-clothes men be relieved of responsibility for vice conditions; and that specially selected officers be used for the enforcement of the excise laws and laws against gambling and prostitution.
- That an improved system of records and reports for use of the uniformed force and its officers be established.
- That the practice of using Police Station No. 1 as a central office for records be abandoned.
- That a record and filing division be established.
- That the police bureau issue an annual report which will contain information of a character which will serve as a guide to the administrative heads, be of statistical value, and aid the local legislative body in adopting ordinances relative to the bureau and crime conditions.

Police Court.

- That provision be made for enlarging the present court room.
- That sessions of the court be held during the forenoon of Sundays and holidays.
- That the justice be relieved of the necessity of making entries in the docket, and for this purpose provision be made on the printed information for the endorsement of the judge as to his findings.
- That the probation officers be required to maintain adequate records in connection with the probation cases assigned to them.
- That the probation officers be required to file a detailed monthly report describing not only their own activities but advising the court of the progress made in the cases under their charge.
- That the male probation officer be required to devote his entire time to the police court cases.
- That smoking in the prisoners' pen be prohibited.
- That a new system of filing of documents be provided.
- That the chief clerk maintain a proper record of warrants issued, and obtain a receipt for them when delivered to the bureau of police.
- That all applications for pistol permits be investigated through the bureau of police, and a report furnished the court containing recommendations as to the issuance of same.
- That a comprehensive and detailed annual report be issued.

Bureau of Fire.

- That the chief of the fire bureau be granted added powers to the end that he may detail the members of his force for special duties and make all transfers and permanent assignments.
- That proper records of transfers be made and reported to the commissioner of public safety.
- That battalion chiefs be required to maintain proper records concerning inspections and the services performed by the members of their commands.
- That battalion chiefs be required, in addition to their other duties, to instruct the firemen and conduct company drills.
- That the morning conference of battalion chiefs be abandoned.
- That the number of captains be gradually reduced by failing to fill vacancies when they occur.
- That company drills be conducted throughout the year, instead of during the fine weather as at present.
- That the grade of tillerman be abolished, and that all members of truck companies receive instructions in operating the tiller.

- That the grade of driver be abolished, and that drivers be selected by the chief from among the uniformed force.
- That the engineers be eligible to promotion to the rank of lieutenant, instead of captain as at present, and that their salary be less than that paid to lieutenants.
- That the engineers be given instruction in the handling of their engines.
- That a school for fire service be organized, and that regular courses of instruction be given throughout the year.
- That text-books be provided the firemen, and that written tests be conducted.
- That substitutes be given regular instructions, and that the practice of using substitutes, instead of appointing regular firemen when vacancies occur, be abandoned.
- That the substitutes, when serving continuously for a period of one month or more, be given the same leaves and furloughs as the regular firemen.
- That the commissioner of public safety either make the vacation period fourteen days, or prohibit the firemen from including in their vacation time the days off they would receive if they were working during that period.
- That the city either supply the firemen their uniforms and equipment without charge, or make provision for the purchase of them at cost.
- That new quarters be provided for Truck Company No. 3, Engine Company No. 1, and the companies housed in old headquarters on Central Avenue.
- That all of the fire houses be equipped with adequate toilet and bathing facilities, and the old-fashioned tub baths be replaced by shower baths.
- That toilets be installed on the apparatus floor of all fire houses.
- That all new fire houses be constructed in accordance with a standard set of plans.
- That additional firemen be appointed in a number which will enable the assignment of an average of twelve men to each engine and ladder company within the fire limits.
- That an additional steamer, which may be used as a reserve engine and for the training of engineers, be purchased. The need for this steamer is imperative.
- That recruits be given active service in all parts of the city.
- That the firemen be transferred from time to time, so that, during their service, they will have performed duty under all battalion chiefs and in all branches of the service.

That the supervisor of engines devote more time to the instruction of engineers and stokers.

That the commissioner of public safety require the maintenance of unit-cost records at the repair shop.

That a central reserve station be established in one battalion district as an experiment, and that the chief be required to obtain all available information upon this plan.

That each ladder truck be supplied with a hose roller, and that the bureau purchase and equip its apparatus with the following minor equipments.

At least two smoke helmets for use in locating cellar fires.

Surgical kits as part of the equipment of trucks in the congested value districts.

Siamese connections to be carried on each hose wagon.

An oxy-acetylene burner for melting steel bars.

Hose jackets to be carried on all trucks.

Flare torches.

At least one portable searchlight, for use at night fires.

That council adopt a "near-side car stop" ordinance.

That the street railway company be requested further to cooperate with the bureau of fire by installing at certain intersecting streets red lights and signals operating automatically on the fire alarm gong—these lights and signals to serve notice to street cars of the approach of fire apparatus.

That all fire stations be equipped with maps and charts showing the location of the fire alarm boxes, hydrants and mains, important risks and other information needed by the firemen.

That firemen be required to study the information contained on station maps.

That all hose be purchased as the result of competitive bidding upon standard specifications.

That all fire stations be equipped with hose racks, and that the present practice of having the hose wagons deliver wet hose to the central tower be abandoned.

That hose companies be equipped with metal boxes in which to keep their reserve hose, which boxes could be rapidly placed on the hose wagon.

That an ordinance be adopted requiring theater owners to pay for the services of firemen assigned to their houses during performances.

That firemen detailed to theaters be furnished either electric torches or lanterns which they should be required to carry while on duty at the theaters.

That all theaters and other institutions housing large assemblages of people be required to furnish their employees printed or written instructions as to their duties in case of fire or panic, and that regular fire drills under the supervision of an officer of the fire bureau be conducted.

That a battalion chief be assigned to the care of the hose, and that no hose be condemned except upon his written certification as to its being unfit for use.

That proper records be maintained of all hose, which records will disclose the assignment of the hose and the history of the service of each length of hose purchased.

That proper records be installed in the storehouses which will provide control over the ordinary stores.

That the superintendent of horses and the horseshoer be required to maintain proper records as to their activities and the supplies and materials used.

That fire prevention inspection be extended to all dwellings.

That, pending the enactment of the law providing for a fire prevention commission, the commissioner of public safety order a house-to-house inspection by the firemen, and that the present procedure with regard to the issuance of licenses to moving picture shows and theaters be changed so as to provide that no such licenses be issued except with the written approval of the chief of the bureau of fire, after an inspection.

That uniformed firemen be used to conduct fire prevention inspections.

That the commission having the power to issue licenses to moving picture operators require that a photograph of the person so licensed be placed upon the certificate.

That the commissioner of public safety cause the three oldest theaters in the city to be carefully inspected before being permitted to reopen, and that the owners be required to cause all rubbish to be removed, sprinkler systems to be installed, the exit lights in one of them made to comply with the code, and the flimsy wooden dressing rooms on the stage of another removed.

That records and reports of the bureau be revised so as to make such changes in the present records and install the new records recommended in this report.

Bureau of Buildings.

That the bureau be reorganized as indicated herein.

That the smoke inspector report to the superintendent of buildings.

- That companies insuring elevators be required to post notices in insured elevators giving dates of last inspection.
- That permits in connection with building operations be issued by a central permit division in the department of public works.
- That fees be collected for all permits issued.
- That better methods of supervision and office control be provided.
- That the inspection force be reorganized and increased.
- That an inspection be made for each permit issued.
- That form for inspectors' reports be standardized.
- That the writing up of reports in the office be prohibited.
- That no clerical work be required of inspectors.
- That a central file be kept of all inspection reports.
- That a card history of all permits be kept.
- That placard permits for building operations be provided.
- That the filing system for plans be revised and modernized.
- That wooden files for miscellaneous reports be replaced by steel filing cases.
- That complete records of all complaints be kept.

Bureau of Health.

- That a daily report be required from the health officer to the commissioner of the department, summarizing all matters of importance.
- That the sanitary code of the city be revised so that it will conform to the recently adopted state sanitary code.
- That a book or manual of rules for the conduct and procedure of employees be published.
- That an improved record of the daily work of employees be installed.
- That a time clock be installed for use by all employees.
- That an efficiency rating plan be inaugurated by which employees may be rated monthly according to quantity of work performed, quality of work, conduct and deportment, and attendance and punctuality.
- That the notification cards used for reporting communicable diseases be revised, so that they will conform to the provisions of the state sanitary code.
- That the regulations regarding the minimum period of isolation for communicable diseases be revised, so that they will conform to the provisions of the state sanitary code.
- That a small automobile be purchased for the use of the diphtheria inspector and for other emergency service.

- That the tuberculosis records be revised, so that the tuberculosis register may be brought up to date.
- That a fund be set aside by the city, as required by law, for the immediate payment of physicians for their services in carrying out the procedure recommended by the state department of health for the control of tuberculosis.
- That the recent ordinance regarding the muzzling of dogs for the prevention of rabies be revised, so that muzzling of all dogs at large will be required at all times.
- That a complete record of all complaints be kept, whether they are found with cause or without cause.
- That an improved form of complaint memorandum slip be adopted which will show all the facts regarding each complaint.
- That improved records of the inspection of restaurants be kept which will show not only what was found but what was done.
- That routine inspection of bakeries by the health bureau be undertaken, so that the present unsatisfactory inspection by the state may be eliminated. (First class cities are authorized by law to exercise complete control of bakeries within their limits).
- That routine inspection of lodging houses be required of the sanitary inspectors.
- That regulations be established and enforced for the diminution of rats and the prevention of diseases carried by rats.
- That the two sanitary officers now employed by the bureau of police be transferred to the bureau of health.
- That a system of sanitary inspection of premises by the police be inaugurated, so that much of the routine sanitary inspection by the inspectors of the health bureau may be eliminated.
- That thorough supervision of the meat supply of the city be maintained by the construction of a municipal abattoir. As an alternative, that a city meat inspection office be established under the direction of the health bureau and in charge of a veterinarian meat inspector, where all meat to be sold in the city shall be inspected and stamped, except that which has been inspected and stamped by the federal inspection service or other state or municipal meat inspection services.
- The sanitary inspectors be assigned to the inspection of food and drug industries.
- That an additional milk inspector be appointed.
- That improved records of service be required of the assistant meat and milk inspector.
- That a supervising nurse and three additional nurses be appointed for increased school and community health service.

That two medical inspectors be appointed for service in the high schools of the city and to carry on the additional health service to be made necessary by the addition to the city of Charlotte.

That medical inspection be provided in the parochial schools, so that parochial school children may receive the same health advantages as public school children and that the provisions of the state law regarding the vaccination of all school children may be enforced.

That the city take over the work of the dental clinics now conducted by the Rochester Dental Association, so that the health officer may be actually responsible for a health function and the expenditure of money for its continuance, over which he now has no control.

That the allowance of \$2,000 a year from the appropriation of the health bureau for the support of the Rochester Public Health Association be discontinued. If this is to be a factor in the prevention of disease, it should be under the direction of the health officer or it should not be supported by the city.

That daily reports be required from medical inspectors which will show the time spent in the performance of each of their various functions.

That year-round welfare stations be established in those schools in which school nurses are stationed.

That the payment of a lump sum of \$4,000 from the appropriation of the health bureau for the support of the Infants Summer Hospital be discontinued. Payment should be made by the health bureau for those children sent by it to the hospital, at a rate per day or per week determined on the basis of the actual cost of their care.

That sanitary inspectors "follow up" children who are given permits for working in factories and other places where child labor is hazardous.

That the present bacteriologist be appointed as a civil service employee in the exempt class (at present the bacteriologist is not under civil service).

That a weekly examination be made of the Ontario water supply, and monthly examinations of the Hemlock water supply be made at the head of the lake and intake, in addition to the weekly examinations at the tap.

That a permanent laboratory assistant be appointed to assist the chemist and bacteriologist in routine laboratory examinations, the preparation of media, etc.

That a copyist or assistant to the registrar of vital statistics be appointed.

That the sanitary inspectors be used in securing better registration

of births by requiring that the inspectors, in making their house-to-house sanitary surveys, secure the names of all children under two years, in order that these names may be checked against the birth register.

That the cost of plumbing inspection (which has practically no importance as a health measure) be eliminated by requiring that plumbers pay a fee for inspection which will cover the cost of such inspection.

That two additional nurses be employed at the Municipal Hospital, one for routine ward service and relief duty, the other for "follow up" work in the homes of patients.

That improved stores records be installed at the Municipal Hospital, which will show the amount of stores received and where, when and to whom disbursed.

That a record of ambulance service of the Municipal Hospital be installed, which will show all the facts regarding each ambulance call, so that the hospital may be protected against charges of delay or of inefficiency of ambulance service.

That separate quarters be provided for male and female employees of the Municipal Hospital.

That a fire escape be constructed from the second story of the Hospital where employees sleep.

That special examination be made of the heating system of the Municipal Hospital, to determine whether improved or increased heating facilities should be provided or in what way the building can be made cold-proof.

That six acres of land on the east of the hospital be purchased in order to bring the hospital property out to Waring Road and that this plot be used for garden purposes.

Department of Charities.

That the social needs of the community be thoroughly studied; with a view to determining how many persons are properly entitled to support, what measures are being used to make such persons self-supporting, and how poverty may best be prevented.

That the United Charities be asked to make such a study as will disclose these facts, together with an investigation of each family now receiving aid from the city.

That such a survey also include housing conditions; the relation of income to rents; facilities furnished by public and private agencies for the care of the sick and the relief of the poor; the sources of crime and methods of prevention and punishment; intemperance and its effect upon economic and social welfare.

That the results obtained by such a survey be used in a reorganization of the charities work, and that the department of charities be made an administrative office only.

That the investigation of all cases thereafter applying for relief be conducted by the United Charities.

That all records of such investigation and action be kept by the United Charities; which should also determine the kind and amount of relief to be given, together with the method of giving.

That all bills be rendered to the commissioner of charities for his approval before payment.

Department of Public Works.

Street and Sewer Bureau (Exclusive of Street Cleaning; Snow Removal; and Refuse Collection, Disposal and Reclamation).

That a system of street maintenance costs and job costs be installed.

That all permits be issued by a central permit division and that a fee be collected for each permit issued.

That a better distributing system be provided for supplies, materials and equipment.

That all inspection service within the bureau be centralized and suitable forms for reporting be provided.

That corporation inspectors be made city employees and placed on the city payroll, and no longer be paid directly by the corporations.

That the sidewalk inspection force be abolished and this service be furnished by the police, who should also be required to report on pavement conditions.

That better supervision over asphalt repair work be provided, in order to prevent collusion between the contractor and inspector, and to insure good workmanship.

That the method of measuring asphalt patches be revised.

That Rochester own and operate a municipal asphalt plant.

That the gangs engaged in flushing house laterals be provided with definite routes to cover each day.

That storage facilities be provided for sewer cleaning equipment at various places in the city.

That a standard form of street sign be provided and signs placed at all street intersections.

Street and Sewer Bureau—Street Cleaning; Snow Removal; and Refuse Collection, Disposal and Reclamation.

In General:

That an educational campaign be conducted to interest the people of the city, especially the children, in the "municipal housekeeping

problem of the city," through instructive talks to the school children in connection with their school work and also by using the city's equipment as a means of conveying information.

That the present system of handling complaints be improved.

That the various city departments be of greater service to each other.

That definite physical requirements be adopted immediately for all candidates for the sanitary service, and that a definite probationary period be established, coupled with special instruction of new recruits.

That the principle of graded pay for graded service and the establishment of regular and extra positions be adopted if possible.

That the practice of paying according to distance and number of loads handled be continued.

That histories of the men in the service be compiled and kept up-to-date.

That provision be made to take care of the old men in the service by the establishment of a proper pension system.

Street Cleaning, Sprinkling and Flushing.

That there be no return to the old system of contracting.

That a better type of rubbish receptacle be provided.

That the related ordinances be revised so that sidewalk sweeping may be done by city forces at times other than those now specified by ordinance, or that property owners or tenants be required to pick up the sidewalk sweepings and place them in receptacles.

That a change from contract to city work be made in respect to street cleaning and sprinkling.

That consideration be given to the use of automobile flushers equipped with pumps for sprinkling or flushing streets.

That repairs be made to eliminate low places in gutters, and that proper street cleaning be given more consideration when new pavements are designed and built.

That all equipment be overhauled, cleaned and painted during the winter season.

That the slow workers be separated from the faster ones and, if possible, be given individual assignments.

That the practice of allowing piles of dirt to stand on the street several hours be stopped, because wind and traffic scatters it over the streets again and work is lost.

That further study be made as to the relative results and costs in Rochester of hand work versus machine work, and machine work versus flushing.

That flushing as a general method of cleaning be adopted, and the use of the automobile type machine flusher operated sixteen hours per day be considered.

That a daily station blotter or chronological record be kept in each station, to provide a control over the movements of officers and standardize their duties.

That uniforms and badges be required for all officers and men regularly and semi-regularly employed.

That the head of the organization be provided with a staff inspector, whose duty shall be to assist in putting into effect such changes in organization as may be adopted and in inspecting the work.

Snow Removal.

That other departments cooperate more with the department of public works in the work of removing snow.

That a scheme be adopted of registering prior to a snow storm those who wish employment.

That a double ticket be used for the teams, showing number of team, capacity and number of loads hauled.

That the regular officers of the street cleaning force in the residential sections be held responsible in their sections for snow plowing inspection in connection with the collection of refuse.

That a change be made in the inspection procedure on railroad work, so that the inspector shall be independent of the company he is inspecting.

Collection of Refuse.

That inquiry be started at once to determine whether horse or motor power is preferable in collection work, so that when the time arrives for the city to take over such work no money will be wasted in building stables, etc., which may soon be discarded.

That every effort be made to obtain better co-operation of the public with respect to character of receptacles used and locations thereof.

That a covering be required for the wagons to prevent the wind from scattering the contents.

Ash and Refuse Dumps.

That special inquiry be made to determine the advisability of sifting the ashes, that the city may recover the 20 to 30 per cent. of unburned coal remaining therein.

That greater efforts be made to secure the cooperation of the pub-

- lie in separating refuse into the three parts, garbage, ashes and rubbish.
- That, if no better arrangement can be made to burn brush at the incinerator, a properly protected burning hearth be provided at each dump to prevent the spreading of the fire and permit burning with a minimum of smoke.
- That section foremen be not made responsible for the operations at the dumps, and that all dump reports go direct to the district superintendents.
- That on small dumps working foremen be employed, instead of tallymen or foremen who are too crippled to work.
- That, if possible, the loads of refuse be weighed before delivery at the dumps, and that at least their size be approximated and recorded.
- That a system of instruction for foremen be established and followed by a thorough, regular inspection.
- That there be a more thorough elimination of illegal material in the collections, and that the city collection force be held responsible for its non-collection.

Rubbish Plant.

- That the practice of burning a portion of the refuse outside of the incinerator be discontinued, and that it all be burned in the incinerator.
- That endeavor be made to secure an arrangement with the contractor whereby tin cans may be flattened and baled before shipment, so as to economize space in shipment.
- That a weekly summary of the operations at the incinerator be prepared and used as an administrative guide by the superintendent.
- That changes in the boilers be made as indicated herein.
- That the superintendent of the rubbish plant be made responsible to the deputy commissioner, in common with the other officers connected with the sanitary service.
- That a working foreman be placed in charge of the raking and baling, and the clerk in charge of unloading and shipping.
- That a careful record be kept of the weight of ashes and unsalable junk, as well as of the salable material.
- That team tickets be revised as indicated herein.
- That arrangements be made for ascertaining the steam output of the plant; that a record thereof be currently in the hands of the plant superintendent, and also of the central office of the street and sewer bureau, and that the railway company pay more for the steam delivered to them.

That a water motor be installed and that a record be kept of the quantity used.

That a periodical statement be prepared showing the operating expenses of the rubbish sorting plant and incinerator, separately classified as indicated herein.

That a second unit be added to the furnace equipment, and that the present unit be remodeled to make it operate more efficiently.

Contract Garbage Collection and Disposal.

That garbage collections be made more frequently during the summer.

That a water meter be installed at the garbage contractor's plant.

That the provisions of the contract with respect to the weighing of all loads be enforced.

That the city of Rochester, at the end of the present contract period, take over the work of garbage collection and carry it on in connection with the collection of other classes of refuse and under the supervision of the same officers.

That, in event it is decided to continue the contract method, bids be requested for collection separately from the disposal of garbage.

That, if the contract system of garbage disposal is continued, consideration be given to a profit-sharing form of contract, or that, as an alternative, the city own and operate its disposal plant.

Water Works Bureau.

That the bureau be reorganized as indicated herein.

That the form of reports in use be revised so as to provide cost data.

That a system of job costs be installed in the distribution division.

That the present records in use in the revenue division be replaced by modern loose-leaf ledgers.

That rate regulation be provided in order that the bureau may be self-supporting.

That provision be made to eliminate the present deficiencies in the sinking funds.

That the cost of fire protection be spread over all assessed property in the city.

That water used for public or semi-public purposes be paid for.

That better control be exercised over water used for building purposes.

That continuous meter reading and billing replace the present periodic handling of this work.

That bills for water rates be made in postal card form and sent

through the mails, instead of being delivered by inspectors as at present.

That the present form of meter readers' cards be replaced by modern reading sheets, which will permit of the use of the addressograph.

That inspection districts be established and inspectors assigned to them to read all meters and also perform certain inspection work.

That the present rules and regulations of the bureau be revised to conform to the present needs of the bureau.

That every possible action be taken toward lowering the per capita consumption.

That all meters be sealed with the new type of brass seal which does away with the use of a press.

That there be a systematic testing of all meters at intervals not greater than five years.

That all meters be owned by the city, instead of by the consumers as at present.

That the meter history cards be revised to include all information necessary as to the cost of up-keep of the various classes of meters.

That service history cards similar to meter history cards be installed.

That additional testing machinery be purchased, in order that new meters may be tested in series instead of singly as at present.

That more attention be paid to the cost of operation of the Holly pumping station.

That a Venturi meter be installed on the supply line in order to determine the quantity of water pumped.

That all coal purchased for the pumping station be bought on the "B. T. U." basis and tested in the city testing laboratory.

City Garage.

That the supervision of both garages be centralized in the chief mechanic.

That daily reports of drivers be required to show character of trips made and places visited.

That better methods of purchasing supplies, materials and parts be adopted.

Public Market.

In view of the fact that the public market problem of Rochester is now under consideration by the Rochester Chamber of Commerce, no suggestions as to further market sites are made in this report. Three plans, however, are discussed.

- 1—An open curb market near the business center of the city, where farmers may sell their products directly from their wagons to retail buyers.
- 2—A combination curb market and market building near the business center of the city; to be owned and operated by the city, and in which stalls may be rented to the small dealers.
- 3—A market building in which stalls or booths are rented to produce dealers, the curb market being eliminated.

Sealer of Weights and Measures.

That the grade of inspector of weights and measures be established and placed in the competitive civil service class, and that applicants be required to prove, by mental and practical tests, their knowledge of weighing and measuring devices, their construction and use.

That the practice of repairing defective weighing and measuring devices be abandoned.

That the city be divided into four districts, and an inspector be assigned in charge of each and required to conduct routine inspections, investigate complaints, conduct sporadic inspections and enforce the provisions of the Brooks net weight law within his district.

That each inspector be furnished a "sealer's kit," and be required to cover his district without the aid of a second inspector.

That inspectors abandon the practice of conducting routine inspections in the order of the location of the stores over given routes, and that they arrange their inspections so as to prevent tradesmen from learning that an inspection is to be made and preparing for it.

That certain days be set aside periodically for the inspection and testing of wagon scales of a larger type.

That inspectors be transferred from district to district, from time to time, so as to prevent their becoming too well known to the tradesmen in any one district.

That an effort be made to amend the state law requiring semi-annual inspections, so that only annual inspections would be required.

That more attention be given to sporadic inspection and detective work.

That, from time to time, the sealer conduct group inspections, by taking his entire staff into the field and visiting a number of places in each of the four districts.

- That a woman inspector be appointed, and that occasionally the services of the woman police officer be secured for making inspections in connection with the enforcement of the weights and measures law.
- That the sealer adopt a new form of stamp to be used for indicating that the weighing and measuring devices have been tested.
- That the sealer be furnished more adequate quarters in a store on one of the main streets, and that a mechanical division be established therein.
- That one inspector be kept on duty at the mechanical division at all hours that the office is open, and that he perform the clerical work in addition to making tests.
- That a motorcycle, equipped with a sealer's kit, be provided for use of the bureau in responding to emergency calls and investigating complaints.
- That owners of large platform scales be requested to provide and maintain standard test weights at their scales.
- That a public scale be installed for use of the city sealer and the public in general, this scale to be under the control of the sealer.
- That the bureau be furnished a motor-driven wagon to replace the two horse-drawn wagons now in use.
- That an ordinance modeled after the New York, Los Angeles, and Chicago weights and measures ordinances be adopted, so that the sealer will have adequate power to enforce his own regulations.
- That an ordinance be adopted providing that no license be issued for any business in which scales, weights and measures are to be used until the sealer shall have issued a certificate of approval as to the weighing and measuring devices to be used.
- That certificates of inspection be issued.
- That the records of the bureau be revised as indicated herein.
- That the bureau issue annually a comprehensive report, which shall contain comparative tables describing the activities of the bureau.

Department of Engineering.

- That the engineering department be reorganized.
- That methods of administrative control include daily progress reports and cost records.
- That the present filing system be replaced by the section, block and lot system.
- That final record maps be kept by the various operating departments instead of by the engineering department.
- That complete subsurface maps be prepared, showing both city and privately owned substructures.

- That a small permanent force of inspectors be provided.
- That additional penalties be provided to prevent impossible time bids by contractors.
- That the specifications for wood block pavements be revised to conform to the best practice.
- That all changes in plans and orders for extra work be made in writing.
- That reasons for granting extensions in time for the completion of contracts be given in writing, and form a part of the permanent record of each contract.
- That the final estimate for all contracts contain explanations as to why extras and quantities are above the original estimate.
- That supplementary contracts be required whenever extra work becomes more than a minor item.
- That a city plan be developed along lines suggested by a former report on this subject, and that all subdivision plans be made to conform to the city plan.
- That a work program covering a period of at least five years be adopted, and that the power to initiate improvements in accordance therewith be vested in the commissioner of public works.
- That the selection of pavement type be made by the bureau of highways and not by the property owners as at present.
- That whenever car tracks are placed on the sides of roadways, the standard form of construction be required and the track area be paved or sodded; and that the method of paving the track area be revised.
- That a standard form of construction for street railway tracks be adopted and required of all street railway companies operating within the city.
- That the zonal method of spreading the cost of original pavement improvements be substituted for the present frontage assessment.
- That the cost of connections to water mains in original improvements be estimated for a length of trench equal to the distance from the center of the street to the curb.

Department of Parks.

- That more local recreation centers be established, and that existing playgrounds be better equipped.
- That a system of connecting roadways between existing parks be provided.
- That the department prepare a comprehensive plan for development of parks and playgrounds, and for providing shade trees along streets.

- That the matter of operating a departmental nursery be considered.
- That the educational values of parks be emphasized by placing labels on trees and publishing a list of varieties.
- That the department prepare and publish an annual report.
- That playground directors be chosen upon a merit basis and that they be given systematic instruction after their appointment.

Mt. Hope Cemetery Commission.

- That the city make provision for improving the roadways in Mt. Hope cemetery.

Civil Service Commission.

- That the rules of the civil service commission be amended so as to classify the service into appropriate functional divisions, such as clerical service, inspectional service, mechanical service, etc.
- That for such service an appropriate number of salary grades, based upon logical gradation of work and responsibility, be adopted.
- That advancement or promotion from one grade to the next higher grade shall be effective and legal only upon certification by the commission, which certification shall be based as far as possible upon competitive examination.
- That there be transferred from the exempt and labor classes those positions for which competition is practicable.
- That specialized titles be eliminated, so that entrance to and promotion within the service will be based, as far as possible, upon general examinations.
- That city-wide registration for the labor class be provided as far as possible.
- That periodical field inspections be made by the staff of the civil service commission, to verify the certification of payrolls.
- That the utilization of gratuitous service in preparing examination questions be more completely controlled.
- That for important examinations, questions be secured from several sources, and the commission's examiner be charged with the selection of those questions which shall constitute the examination.
- That detailed specifications for distinct positions or groups of positions be set up, as a basis for fixing entrance and promotional examination requirements.
- That closer supervision be given to probational appointments.
- That, in order to establish a proper basis for compensation of employees, detailed specifications be prepared which will define the requirements of the various classes of work, and that salary grades and rates be set up and existing employments appraised

on the basis of such specifications.

That, in conjunction with the detailed specifications of work requirements suggested under the previous caption, the positions be so classified as to indicate lines of promotion or advancement, and the requisites for advancement from one salary rate to another salary rate within the grade, or from one grade to another grade.

That the civil service commission install in each department a system of efficiency records, which shall be maintained in each department subject to the commission's supervision; that such efficiency records furnish a basis for monthly or quarterly individual ratings.

That satisfactory services shall be recognized and given certain credit.

Examining Board of Plumbers.

That members be paid on the basis of \$5 per day of actual service in attendance at meetings as required by law, rather than at a rate of \$20 per month.

That attendance of the city engineer be required at meetings of the board (city engineer is ex-officio a member of the board).

That the method of selecting examination questions be changed to provide for an original set of questions for each examination, rather than the use of questions from the present list, which has been in use for many years.

That a practical test of the plumber's ability be required as part of the examination.

That the practice be discontinued of "squeezing through" candidates for certificates of competence who fail by a small margin at examinations.

Board of Examiners of Stationary Engineers.

That written instead of oral examinations be held for all applicants for license as stationary, hoisting or portable engineers. If oral examinations are necessary when applicants are illiterate, there should be a complete stenographic record of the examination.

That practical tests be given to all applicants for licenses.

That the rules and regulations of the board be printed for distribution among the stationary, hoisting and portable engineers of the city.

II.

SUGGESTIONS WHICH TO BE MADE EFFECTIVE REQUIRE AMENDMENT OF THE CITY CHARTER.

Elections.

That the term of elected city officers be increased from two to four years.

Budget Methods.

That all dates relating to the preparation of the budget and adoption of appropriations be moved forward, to permit of the consideration of budget matters prior to the beginning of the fiscal year, and also to afford time in which to prebill taxes.

Comptroller.

That all dates relating to assessment and collection of taxes be moved forward, so that taxes may be made receivable the first of the year and thus may be obviated the necessity of borrowing to finance the city during the first four months of each year.

That the advertising of claims in the official newspaper each week, and the further holding of such claims for five days before payment, be discontinued, so as to permit of their being paid more promptly and thereby obtaining cash discounts.

That all sinking funds be placed on an actuarial basis and so maintained from year to year, and that the sinking fund accounts be simplified to show the amounts which should be in such funds.

Treasurer.

That the office of treasurer be made appointive by the mayor, instead of elective as at present.

That steps be taken to prebill all taxes, as soon as charter changes can be secured which will make it possible to have the tax rolls completed early enough to afford time for such work.

Department of Assessment and Taxation.

That all assessment dates be moved forward as above recommended.
That the members of the board of assessors be made appointive by the mayor, instead of being elective as at present.

Department of Public Safety.**Office of the Commissioner.**

That appointments to the offices of probation officer, Italian interpreter, and court stenographer be made by the justice of the police court, and not by the commissioner of public safety.

Bureau of Fire.

That the charter be amended so as to provide for the establishment of a fire prevention commission to consist of the commissioner of public safety, fire marshal, chief of the fire bureau, and two citizens to serve without salary, and that the fire marshal be relieved of responsibility for fire prevention inspection, and that all of his duties with relation to fire prevention, as now prescribed by statute, be transferred to such commission, of which the chief of the bureau of fire should be the executive officer.

That the suggested fire prevention commission be given broad powers to formulate and promulgate rules and regulations governing fire prevention, and that its orders, rules, and regulations have the force and effect of law.

Pension Funds of Policemen and Firemen.

That the pension provisions be changed and reduced on the basis of benefit to service and equitable treatment of employees.

That the employees and the city bear an equal share of the pension burden on account of future services.

That the payment of the deficiency on account of insufficient contributions in the past be assumed by the city.

That the police and firemen's pension funds be amalgamated.

That the amalgamated fund be closed to new appointees.

That the income of the amalgamated fund be provided by deductions from salaries and annual city appropriations.

That the new appointees have a separate fund.

That, upon the decision of the main provisions of the system here tentatively outlined, all details be carefully worked out and the cost estimated before it is put into operation. The suggestions made above and discussed in the report are offered as a concrete basis for the formulation of a constructive pension measure.

A satisfactory record system should be installed without delay, to enable adjustments in provisions and contributions being made on the basis of the actual experience of the fund.

Bureau of Buildings.

That the bureau of buildings, in the department of public safety, be made a division of building inspection in the engineering bureau of the department of public works.

Bureau of Health.

That the bureau of health be removed from the department of public safety, and that the bureau of health and the department of charities be consolidated under one head as a department of health and charities, consisting of a bureau of health and a bureau of charities.

Board of Examiners of Midwifery.

That the board be included as a staff agency within the proposed department of health and charities.

Department of Public Works.

That the entire department of public works be thoroughly reorganized along the lines suggested herein.

That the commissioner of public works supersede the city engineer as a member of the board of estimate and apportionment.

Department of Engineering.

That the engineering department be made a bureau of engineering in the department of public works.

That the title of city engineer be changed to chief engineer of the department of public works.

That the bureau of public buildings be made a bureau of the department of public works.

Public Market.

That the public market be transferred from the department of public works to the bureau of health of the proposed department of health and charities.

Department of Parks.

That the park commissioner be given power to veto measures proposing the acquisition of land for park purposes whenever they are inconsistent with the accepted plan.

Civil Service Commission.

That a change in the form of organization be adopted whereby the commission will be charged only with legislative, judicial and

inspectional functions, and a staff organization be established for the enforcement of all rules and regulations, and the accomplishment of all executive work prescribed by the commission. The head of the executive department should devote his whole time to his official duties and be a member of the commission.

Examining Board of Plumbers.

That the board of examiners of plumbers be included within the proposed bureau of engineering of the department of public works.

Board of Examiners of Stationary Engineers.

That the board of examiners of stationary engineers be placed in the proposed bureau of engineering of the department of public works, as a staff agency of that bureau.

ELECTIONS.

Organization.

Under the state law, elections in the city of Rochester are held under the supervision of the county board of elections, the members of which are appointed by the county board of supervisors. The law provides, however, that the mayor shall appoint the district election officers, and that the city shall make the necessary appropriations and furnish the necessary supplies. There are 134 election districts in the city of Rochester and the mayor appoints inspectors, poll clerks, and ballot clerks for each district.

There are too many elections in Rochester. The result is an unnecessarily large expenditure of public funds and an unnecessary handicap on the efficiency of the city's officers. The following analysis of the city's share of the election costs during the past four years shows that the burden is rapidly becoming greater:

Primary

	1911	1912	1913	1914	Total
Inspectors.....	\$ 1,935.00	\$ 6,615.00	\$ 3,465.00	\$ 3,550.00	\$15,555.00
Poll clerks.....		3,292.50	1,710.00	1,762.50	6,765.00
Ballot clerk.....		3,240.00	1,702.50	1,762.50	6,705.00
Supplies.....		33.50	15.00	275.00	323.50
Rent.....	325.00	570.00	260.00	643.10	1,798.10
Total.....	\$ 2,260.00	\$13,751.00	\$ 7,152.50	\$ 7,983.10	\$31,146.60

General

Inspectors.....	\$ 9,236.00	\$14,725.00	\$15,037.00	\$19,549.00	\$58,546.00
Poll clerks.....	898.00	1,534.00	1,472.00	1,912.50	5,816.50
Ballot clerks.....				1,320.00	1,320.00
Supplies.....				1,561.31	1,561.31
Rent.....	1,660.00	1,380.00	1,170.00	1,320.00	5,330.00
Total.....	\$11,794.00	\$17,639.00	\$17,679.00	\$25,661.81	\$72,773.81

Constitutional Convention

Inspectors.....			\$ 6,232.50	\$ 6,232.50
Poll clerks.....			1,545.00	1,545.00
Rent.....			800.00	800.00
Total.....			\$ 8,577.50	\$ 8,577.50

Total cost to city.....	\$14,054.00	\$31,390.00	\$24,831.50	\$42,222.41	\$112,497.91
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In addition to the city's share of the cost as shown above, it should be remembered that the county also pays out considerable sums for

elections and the larger portion of the county taxes are paid by the city taxpayers (the city pays 60 per cent. of the county taxes).

The amount of election expenses borne by Monroe County in 1914 was \$22,114.

State and city officers, with certain exceptions, are elected for only two years and county officers for three years. That such terms are too short is now generally conceded by charter and constitution drafters, legislators, administrators, and other students of government.

When it is considered that a large portion of the time of elected officers is given over to getting acquainted with their jobs at the beginning of their terms and in getting reelected at the end thereof, it is obvious that the two-year term is too short.

The electorate of Rochester cannot change the constitution with respect to the terms of state and county officers, but it can take steps to revise the city charter so as to have a four-year term for city officers; and this should be done. Action should also be taken to remedy the defects of the primary election law.

It is true that several of the city's officers have been continued in office for many years by being successively reelected. This fact, however, is no argument for the present short terms. Had the terms been four years, the cost to the candidates and to the city would have been less. Moreover, the officers would not have had so much distraction from the duties of their respective offices because of reelection demands. The officers of government now elected in Rochester during a four-year period are shown by the following tabulation of the years 1911 to 1914, inclusive:

FEDERAL.	STATE	COUNTY	CITY
1911	1911	1911	1911
None	5 Assemblymen	Sheriff Treasurer	Mayor President of Com- mon Council Comptroller Treasurer 2 Assessors 2 Commissioners of Common Schools Also Supervisor, Al- derman and Con- stable from each of 22 wards.

1912	1912	1912	1912
45 Electors for President and Vice-President 2 Congressmen	Governor Lieut. Governor Secy. of State Comptroller Treasurer Attorney General State Engineer 2 Associate Justices Court of Appeals 2 State Senators 5 Members of Assembly	Judge Special County Judge Surrogate Clerk Supt. of Poor Purchasing Agent	Supervisor to fill vacancy
1913	1913	1913	1913
None	Chief Judge of the Court of Appeals Associate Judge of Court of Appeals 5 Assemblymen	District Attorney Purchasing Agent 2 Coroners	Judge of Municipal Court Judge of Police Court Others the same as 1911 except 3 Com- missioners of Schools instead of 2
1914	1914	1914	1914
1 U. S. Senator 2 Congressmen	1st 7 same as 1912 Also Associate Judge Court of Appeals Justice of Supreme Court 16 Delegates at large and 6 from district to Constitutional Convention 2 Senators 5 Assemblymen	Sheriff Treasurer Purchasing Agent	None

In the introduction of this report attention is called to the desirability of bringing the mayor into closer relation with the common council. The thought is that he should be responsible to that body: defend his measures before it. Under such a plan, issues might very naturally arise and matters reach practically a deadlock. Such a condition should not be permitted to continue until the end of a four-year term. Hence if a four-year term be adopted, together with a closer relation of the executive and legislative branches, a provision for direct appeal by the mayor to the people for their approval and support should also be included.

BUDGET METHODS.

Preparation of Estimates.

Section 28 of the charter provides that—

“On or before the first day in November of each year, all heads of departments, boards, judges of courts, and officers, empowered to authorize expenditures of money, except Mount Hope commission, must furnish to the mayor estimates in writing of the amount required for expenditures for the next fiscal year in their respective departments, boards, courts or offices.”

Examination of the dates set forth on the estimates submitted by the various department heads shows that in actual practice the estimates are not prepared and turned over to the mayor until January. The mayor appoints a committee of the board of estimate to act as a budget committee and turns over to it the estimates which he has received. The committee is usually composed of the city engineer, comptroller, and corporation counsel, the comptroller acting as chairman. The clerks in the office of the city engineer analyze the estimates, prepare summaries, etc., and the committee makes such supplementary inquiries as seem desirable.

No standard forms of stationery are used in submitting the departmental estimates, and examination of those submitted for 1915 disclosed all sizes and rulings. Neither is there any standard classification of functions or objects of expenditures—whether as between department or as between two or more years for the same department.

A few of the departments set forth the appropriations of the preceding year as a basis for comparison, but most of the departments show simply their requests without any comparative figures, except the lump sum total which was appropriated the preceding year. In fact, not even the latter was shown by several departments. The copy of the estimates submitted to the mayor by the sub-committee contains the appropriation of the preceding year which corresponds with the items requested for the current year, such data being prepared by the city engineer and his staff.

To facilitate the compilation of the various departmental estimates for consideration by the budget committee and mayor, and also to facilitate comparisons of past expense and future estimates, special forms should be designed, printed and a supply thereof distributed to the department heads for use by them in preparing their

estimates. Such forms should be standard for all departments and should provide for showing separately for each class of expenditure and service, (1) expense incurred each year for the preceding two years, (2) appropriations for and expenses incurred to date during the current year, or estimated amount for the entire current year, (3) estimated expenses for the ensuing year, (4) increases and decreases between preceding years, current year, and next year's estimates. All increases for personal services should show clearly whether caused by new positions or by increases in salaries of present incumbents. Such forms have been designed for many cities throughout the country and copies thereof may readily be obtained as a guide.

Public Hearings.

During the period when the estimates are being considered by the committee and the mayor, meetings are held at which department heads in turn are requested to be present. Although the City Hall reporters of the local papers usually ascertain the time when the budget committee is to meet and sometimes mention the fact in their news stories, no formal notice is published by the budget committee relative to the time and place of meeting. It is, therefore, not to be expected that any taxpayers would appear before the committee for a hearing. It was stated by a member of the committee that to his knowledge no taxpayers had ever come before the committee.

The estimates having been submitted by the committee to the board of estimate, it would seem that opportunity might be afforded at this point for a public hearing thereon before any formal action is taken. However, not only is no such hearing held, but the proceedings as printed show that the board sets formally on the estimates by resolution the same day they are received from the committee, and passes them along to the common council.

A public hearing is held by the council as required by charter (section 105), and the estimates are published in both of the official newspapers. However, it is to be noted in this connection that even the estimates as published by the common council do not carry any comparative columns whatsoever as a means of informing the citizens relative to amounts and character of increases and decreases in the appropriations.

The public hearing should be advertised in the local papers in advance and a sign showing the date, hour and place should be displayed prominently at the front of the City Hall. Meanwhile the estimates should be published in pamphlet form as a part of the suggested budget subsequently described herein and distributed to

the local press, commercial and civic organizations, and others interested in budget matters.

Adoption of Budget.

The charter (section 105) provides that "after the public hearing and within thirty days after the annual estimate has been submitted to it, the common council must adopt the same as submitted or as amended by it, and enter it upon its minutes." The charter also stipulates (section 63) that the various items of the budget "as adopted by the common council become appropriated for the fiscal year in the amounts and for the several departments, bureaus, boards, courts, offices and appropriations as therein specified."

The procedure incident to adopting the budget and the time of the various steps therein are shown below in summary form for the years 1914 and 1915.

	1914	1915
Estimates submitted by departments to mayor and referred to budget committee.....	Jan.	Jan.
Budget committee reported and estimates adopted by Board of Estimate	Feb. 14	Feb. 13
Estimates received in council	Feb. 24	Feb. 23
Finance committee reported	March 1	March 9
Estimates adopted by council	March 24	March 23

Between the beginning of the fiscal year—January 1—and the latter part of March—the time when the appropriations are made (estimates adopted) to meet the expenses of the year—the interim is bridged over by council with monthly ordinances authorizing sums sufficient to meet the expenses of each succeeding month. These monthly appropriations are made on the basis of written requests or estimates prepared and submitted by the comptroller.

It, therefore, develops that the appropriations which are made the latter part of March can be increased or decreased, or adjusted to cover this or that special subject, only for the remaining nine months of the year, because, insofar as the appropriations are retroactive for the other three months, the money has already been expended. It would be much better if opportunity were afforded for giving consideration to the city's budget for the entire fiscal year prior to the beginning of such year. The entire group of budget dates indicated above should be moved forward so that the appropriations for a given year would be made well in advance of the beginning of the year. In making this change, care should be taken that provision be made for adopting the appropriations not only prior to the beginning of the year, but also prior to the date of the elections at which the city officials are elected, otherwise it might develop that a defeated

and out-going administration would adopt the appropriations by which a newly elected or in-coming administration would be bound throughout the ensuing year and thereby greatly handicapped.

Budget As Basis for Administration.

The purposes for which appropriations are made follow closely the requirements of the charter with respect thereto (section 62). Very little additional detail is included. In short, the appropriations are mainly according to the principal organization units of the city government, such as departments and bureaus. To a limited extent only may appropriations be said to be functionalized, and there is practically no segregation as to sub-functions for which money is requested and appropriated.

Ordinarily this would result in an inordinately large proportion of appropriations being used for salaries and wages, but the charter (section 65), prescribes in effect, and quite properly so, that all salaries must be fixed during the month of January for the entire succeeding year. This part of the appropriation is, therefore, definitized and a basis for audit of payrolls afforded.

With respect to expense other than for salaries and wages, it is quite proper to appropriate in lump sums, provided records of expenses and unit costs of service rendered are maintained in sufficient detail to serve as a basis for administrative judgment when granting appropriations, and that adequate specifications and restrictions are included in the appropriation bill relative to the expenditure of the amounts appropriated. To grant lump sum appropriations otherwise is to make it possible for administrative officers to use the appropriations for purposes other than for which they were intended and granted.

In Rochester not only are no expense records kept, but unit costs are practically unknown throughout all departments of the city government. One of the first steps, therefore, should be the installation of an expense and unit cost system of accounts which will support budget requests and guide the mayor and legislative bodies in granting appropriations.

In lieu of expense records, the comptroller maintains in considerable detail a segregation of expenditures (audited vouchers)—erroneously called expense in the annual financial report. These accounts are discussed subsequently herein.

Budget Content.

The annual budget of the City of Rochester should function as (1) a medium of informing the electorate relative to the city's finan-

ces; its transactions during the past year, present condition, and plans for the future; (2) an aid in making appropriations and in other local legislation; (3) an aid to the mayor and other executive officers in the performance of their administrative duties.

In order that the city's budget may serve the three purposes above indicated, it should contain

- (1) A balance sheet showing what the city owes and what it owns
- (2) A fund statement showing condition of the various appropriations—the amount of appropriations remaining unencumbered and the amount of revenues remaining unappropriated.
- (3) A statement of past operations and an estimate of next year's operations—showing in comparative form as a basis for judgment the revenues and expenses which accrued during each of the preceding two years, and the estimated accruals for the next year—the revenues classified according to sources and the expenses classified according to functions and sub-functions. The statement of expenses of past years should be supplemented by detailed statements of unit costs of all kinds of services for which it is possible to prepare such costs.
- (4) Explanatory text relative to the conditions, reasons, etc., connected with the estimates for the ensuing year, also a work program showing the undertakings to be begun and those to be completed during the next year and each of several years in advance.
- (5) An appropriation bill containing amounts and all necessary phraseology relating to specifications, requirements, and conditions governing the expenditure thereof.
- (6) Proposed measures for revenue-raising and for borrowing.

In so far as the Rochester budget does not contain the six features above set forth, the city may be said to have no budget, because they are not contained in the document submitted to the local legislative body as a budget. As hereinbefore explained, nothing is submitted but the bare estimates of expenditures for the ensuing year.

With respect to a balance sheet, the annual report of the comptroller contains a balance sheet and supporting schedules which are fairly complete. It might, with advantage, be included in the group of documents needed to comprise a budget and published as a part thereof.

With respect to a fund statement, the present accounting system needs to be revised so that it can produce the kind of information necessary to compile such a statement. At present the desired data are not available.

With respect to a statement of operations also, the present accounting system needs to be supplemented in order to make it possible to compile statements of expense.

With respect to explanatory text matter, work programs, etc., the members of the legislative bodies and the public at large are left in the dark in that they are not supplied with such information. It is highly desirable that the budget pamphlet recite all matters pertinent and necessary to full understanding of the budget statements.

With respect to an appropriation bill containing specifications, requirements, and conditions governing the expenditure of the amounts appropriated, no such form of bill is prepared, although it is essential in order clearly and legally to define them.

With respect to revenue and borrowing measures, no attempt has been made to bring together in a single picture at budget-making time the legislative measures necessary to be enacted to provide money for current and capital purposes during the year. Revenue and borrowing measures are promulgated intermittently during the year and are usually proposed and adopted independently of each other. There is a close relation between such measures and the other features of the budget, and it would be of much assistance to the officers responsible for the city's fiscal affairs, as well as of informative value to the public, if they were included therein.

BOARD OF CONTRACT AND SUPPLY.

GENERAL STATEMENT.

The city of Rochester has provided in its charter for central purchasing. The board of contract and supply supervises the awarding of contracts and the secretary of the board acts as the purchasing agent on open market purchases. Certain errors in policy and administration have done much to lessen the advantages of central purchasing, however, and in effect the buying is still decentralized to a great extent. Standardization of supplies and specifications and quantity buying have not been effected. To secure the advantages which rightly go with central purchasing, considerable constructive work and change of method should be begun immediately.

CENTRALIZED PURCHASING.

Comparison of Department and Central Purchasing.

An examination of a large number of vouchers from four departments, issued at various periods of the year, made apparent the fact that real central purchasing does not exist in Rochester: and that more than half of the purchases were made by the departments, and were as a rule approved after delivery by the purchasing agent. The following table is a summary of the examination made:

Organization Unit	Number of Vouchers	Total Amount	Purchased by Departments		Purchased by Purchasing Agent	
			No.	Amount	No.	Amount
Water works maintenance	523	\$20,619.15	208	\$9,515.89	315	\$11,103.26
Street and Sewer Bureau.	200	7,818.96	136	5,869.23	64	1,949.73
Department of Charities.	121	3,496.06	91	1,654.45	30	1,841.61
Bureau of Health.....	47	1,212.74	29	516.60	18	696.14
Total.....	891	\$33,146.91	464	\$17,556.17	427	\$15,590.74

It is thus apparent that of the total purchase orders 52.07 per cent. of the number and 53 per cent. of the amount were issued by the departments, instead of by the central purchasing agency.

It is not clear by what authority these purchases were made. The excuse was advanced that such supplies are needed in a hurry, and that it is not desirable to wait for the order to go through the office of the purchasing agent. But the charter provides a procedure for emergency orders and these orders did not follow it.

This procedure defeats one of the main purposes of central purchasing, viz, the supervision of all orders with a view to securing for each department the advantages obtained for every other department.

Every order except for emergency supplies should be issued by the central purchasing agency.

Estimated Prices.

It is customary for the departments to enter on their requisitions an estimated price for each article requested. The variation of these prices from the actual prices obtained is both above and below, although in the majority of cases examined the estimated price was the lower. Some departments expend considerable effort to get these prices. For example, the bureau of health secures quotations before submitting its request and the chief clerk maintains that his estimates are correct. Other departments secure quotations at times, and sometimes use the price obtained on the last order. The securing of prices should be done by the purchasing agent.

The following table illustrates the discrepancies between estimated and actual prices.

Bureau of Health.

	Estimated Price	Actual Price	Variation in Per Cent.
Driving Lamps	\$ 2.00	\$ 2.70	+35
Whooping Cough Pamphlets	75.00	90.00	+20
Cheese Cloth	5.00	8.00	+60
Oats, 6 bushels	2.40	4.50	+87
Plumbing Inspectors' Reports	25.00	75.00	+200
Examination Cards	6.50	20.00	+208

Other Departments.

Bridge Tender Payrolls	3.00	9.85	+228
Soap	18.00	25.15	+40
5 H. P. Motor	100.00	236.08	+136
Gaskets	16.00	6.43	-60
Casings and Tubes	114.00	80.52	-29
Solder	10.00	18.50	+85

Lax Methods of Securing Prices.

Naturally a certain proportion of variation between the estimate and the actual is to be expected. However, the variations from the estimated prices shown on the departmental requisitions and the prices actually charged by the vendors are so marked as to indicate a laxity in securing prices. Generally no prices are entered on the purchase orders which are sent to the vendors: none of those examined showed

such extensions. Bids are seldom received on small orders, and on supplies which are more or less standard the order usually goes to one certain firm. The purchasing agent relies on the comptroller's reducing the price if it is unreasonable and feels that he therefore need not make extensive investigations of prices before ordering. As a matter of fact, the checking of prices in the comptroller's office is from a price file made up not from current quotations of lowest prices but from prices which the city has paid in the past; the file being posted from the prices shown on invoices received from vendors. Moreover, this check by the comptroller is made after the supplies have been delivered, and in many cases used, and as compared with an investigation of prices prior to purchase is practically futile.

High Prices.

In comparing some supply prices with those obtained by the city government of Buffalo, and by the Eastman Kodak Company of Rochester, it was noted that Rochester prices were often high. The following are typical examples:

Portland Cement.

Rochester.....	\$2.00 to \$2.20	per barrel
Buffalo.....	1.75 to 1.95	“ “
Eastman Kodak Company.....	1.44	“ “

White Lead.

Rochester.....	\$.09	per pound
Buffalo.....	.0675	“ “
Eastman Kodak Company	.0675	“ “

Rainbow Packing.

Rochester.....	\$.60	per pound
Eastman Kodak Company.....	.52	“ “

White Waste.

Rochester.....	\$.12	per pound
Buffalo.....	.09	“ “

Lack of Competition.

An examination of the total purchases of several standard commodities revealed the fact that in nearly every case the bulk of the orders was placed with one or two firms. The theory of the purchasing agent is that these firms are prepared to quote a lower price, and that it is unnecessary to get bids from others. It is not clear why competition would not reduce prices, especially if it were made keener by the participation of out-of-town dealers. The following examples illustrate the lack of competition. As a part of the survey

of purchasing methods names of prominent local dealers in certain lines of commodities were selected from the telephone directory, and their total sales to the city ascertained:

Stationery.

Dealer	1914 Total Purchases
*Scrantom, Wetmore & Company.....	None
Geo. Doell & Company	\$2,589.27

Wholesale Groceries.

L. B. Altoman	None
Atlantic Supply House	\$ 5.70
Brewster Crittenden & Company.....	6,831.87
Brewster, Gordon & Company	6,440.10
George C. Buell & Company.....	1.20
S. M. Flickenger & Company	None
Thomas M. Hurst	None
*Meyer, Foote & Dayton Company.....	None
A. Palmigiano Company	None
*Smith, Perkins & Company	None

Electrical Contracting Supplies.

*Burke Electric Company	None
Arthur Becker	None
Berry & Schlegel	None
A. F. Bircher	None
Economy Electric Shop	None
*Fish & Horton Company	\$168.82
Green, Ward & Weber, Inc.....	None
*T. R. Huber Company	None
*Laube Electrical Cons. Company.....	None
North East Electric Company.....	854.35
*Rochester Electric Cons. Co.....	None
*Rochester Gas Appliance Company.....	None
R. Schmidt & Company.....	3,732.72
J. B. Thistle Electric Company	22.00
Warder, Clark & Chaplin Company.....	337.86
Wheeler-Green Electric Company	5,925.67

Hardware.

Castel, Wilmot & Company	None
S. B. Roby Company	\$1,635.32
Bennett Hardware Company	None
Henry Hebing & Son	4.76
Henry Lester	None
*F. H. Loeffler	None
*Mathews & Boucher	448.79
*J. Sage	None
A. H. Walter	None
*Weaver Hardware Company	517.50
*Weed & Company	2,762.20

*Department of Education made purchases from these firms which are not included in these totals.

It should be required that the purchasing agent secure at least three quotations on every order amounting to over \$15. A record should be kept of these bids, preferably on the requisition blank. Many of the dealers who have not heretofore received orders would compete for city business if they were given the opportunity. One large grocery house stated that after a number of unsuccessful attempts to secure city orders they had decided not to attempt bidding under present conditions. They further stated that they would bid on city contracts or open market orders and quote prices on various supplies if requested. The purchasing agent should not limit his invitations to Rochester dealers, but should make an effort to secure out-of-town bids, and thus introduce a constant incentive to close bidding by local dealers.

Annual Supply Lists.

A matter that has been entirely neglected by the purchasing department is the listing of supplies purchased. Such lists should be made according to each class and kind of supplies and arranged by departments, so that estimates of supplies could be made as a part of the budget estimate. This would serve as a useful basis for making the annual budget estimates for supply appropriations and the lists could be assembled according to the various groupings handled by different kinds of dealers—hardware, drygoods, groceries, etc., and serve as proposals for contract bids and thus facilitate purchasing. Moreover, it would simplify the entering into contracts for certain groups of supplies for all departments, each of the latter requisitioning thereon as supplies are needed.

Standardization of Supplies.

No serious attempt has been made by the city to standardize supplies. The person to decide as to the brand or kind of supply to be used for a specific purpose is the officer in charge of the work. The purchasing agent buys whatever is requested. The policy of purchasing for a given purpose only that kind of supply which is best adapted to the purpose has never been adopted. It is consequently not unusual to find different departments using different grades of the same kind or class of supplies for the same purpose. Even within departments variations of quality or brand were noted. For example, on March 8th the charities department purchased twenty barrels of flour at \$7 per barrel on one order and five barrels at \$6.30 per barrel on another order; on the 10th it again paid \$7. All supplies which are used from year to year should be standardized and purchased on definite written specifications. With a complete set of specifications

it would be possible to obtain complete quotations covering periods varying in length with the stability of the prices. Such a standardization makes quantity purchasing much simpler and with quantity purchasing lower prices are possible.

Specifications for Contracts.

The specifications for supplies purchased by contract have been lax in the past. They have not been prepared in advance of the need, nor have they provided tests as a guarantee of the fulfillment of the specifications. It is probable that large sums could be saved if proper specifications were in use. As an illustration, purchases of fire hose and coal are cited.

Fire Hose.

The specifications for fire hose are known as the "Eureka" specifications. These amount to practically closed specifications, and as a result of absence of competition, the price of fire hose is \$1 to \$1.10 per foot. On December 24, 1913, in response to a request for bids, but two bids were submitted on 1,000 feet of hose. On December 16, 1914, in response to a similar request, only three bids were received.

It has been the experience in New York City that four-ply hose, as purchased in Rochester, is no better than two-ply hose. This has been proven by tests and by actual usage under conditions probably as bad as can be found in this country. In one test the four-ply hose failed below the required pressure and the next piece tested fell below that shown for any one of the three kinds of two-ply hose.

It is not apparent why the lower priced hose will not give satisfaction in Rochester, if proper specifications are drawn and tests are conducted regularly. The saving possible last year would have been approximately \$2,450, if the 5,500 feet of hose had been purchased for sixty cents—a reasonable figure for double jacket hose—instead of for \$1 and for \$1.10.

It is recommended that specifications be prepared for the next order of fire hose, which will permit competitive biddings, and that these specifications provide for complete physical and chemical tests.

Coal.

Most of the coal purchased for city use is anthracite, although some bituminous coal is used. All coal is purchased on specifications which provide for no tests. Specifications should be drafted which would provide tests for heat units, moisture, etc., and deductions for failure to meet standards. A number of cities effect the savings which may be made in this way. Buffalo, for example, reduced

the price per ton on one month's shipment from \$2.07 to \$1.73 per ton, because of failure to meet the standards. Such specifications are the surest guarantee that the best quality will be received.

Testing Supplies.

In general, specifications seldom provide for tests, and the only guarantee of quality is personal inspection, which at best is liable to error.

Not only should the large purchases, such as fire hose, coal, lumber, etc., be tested, but also the smaller purchases should not be neglected. Such tests may be made at the testing laboratory of the city engineer, which should be a service laboratory for the entire city government. With slight enlargement it can serve this purpose.

QUANTITY BUYING.

Contracting.

Approximately \$75,000 is expended each year for supplies purchased on contract. The maximum limitation for purchasing on open market order without advertisement for bids and entering into a contract is \$250. This is too low and necessitates advertising expense which could be eliminated if more bids were secured by invitation. It is especially noticeable that the number of bidders is low. On thirty-seven contracts the number of bids was as follows:

One bidder.....	Seven contracts
Two bidders.....	Eleven contracts
Three bidders.....	Fourteen contracts
Four bidders.....	One contract
Five bidders.....	Two contracts
Six bidders.....	Two contracts

As great competition as this could have been secured by invitation bids and would have saved the expense of publishing notices. Many cities have a contract limitation of \$500, others as high as \$1,000. The limit in Rochester should be raised and bids on contracts for small amounts should be secured by invitation and the posting of notices on a public bulletin board from day to day in the office of the purchasing agent.

Evasion of Contract Requirement.

The low limitation on open market orders, the delays attendant upon advertising and other causes have contributed to a general tendency to evade the contract requirement. This is done by issuing what are known as "split orders," i. e., separate orders for the same kind

of supply on the same day or a few days apart. The following examples are illustrative of this practice:

Voucher No.	Bureau	Vendor	Commodity	Date of Order	Date of Voucher	Amount
868	Police	T. L. Heughes & Co.	Police standards	8-10-14	9-22-14	\$210.00
915	"	" "	" "	8-10-14	10- 3-14	210.00
						<u>\$420.00</u>
1,256	Water	Wells, Purcell Co.	Lumber for barn	11- 5-14	10-27-14	\$234.22
1,314	"	" "	" "	11-13-14	10-27-14	221.60
1,364	"	" "	" "	11-24-14	11-20-14	150.49
						<u>\$606.31</u>
1,001		S. B. Roby & Co.	Iron and bolts	9-13-14	9- 5-14	\$185.79
1,187		" "	" "	10-19-14	10- 8-14	224.00
1,205		" "	" "	10-26-14	10- 8-14	160.00
						<u>\$569.79</u>
932		Treadwell Const. Co.	Steel plates	7-13-14	8-13-14	\$207.38
941		" "	" "	8-14-14	8-13-14	83.35
960		" "	" "	7-14-14	8-13-14	237.00
						<u>\$527.73</u>

In the first example the orders were issued by the purchasing agent. In the next three the orders were issued by the water bureau and were not approved by the purchasing agent until some time had elapsed. This practice should be discontinued. It should not be necessary to violate the charter in order to secure expedition.

Combination Orders.

It is the general practice to issue an order or orders to cover each requisition which is received. No attempt is made to ascertain whether other departments may need similar supplies at the same time, or in the near future. No list is kept of purchases and the purchasing agent does not record what supplies are generally purchased by each department. As a result purchasing in quantities is not practiced. Many supplies are purchased piecemeal which might be bought on contract or on quotations. For example, in the charities department the following number of orders was issued during March:

Supply	Number of Orders	High and Low Prices
Flour.....	12	\$ 6.30 to \$ 7.00 per barrel
Sugar.....	9	19.64 to 20.32 " "
Coffee.....	9	20.00 to 21.00 " cwt.
Condensed milk..	5	4.35 " case
Rice.....	5	6.25 " cwt.
Canned tomatoes	5	1.60 " case

Lower prices could probably have been obtained if these goods had been purchased in contract or after competitive quotations had been secured. Moreover, the other institutions which use these supplies could have combined their needs with those of the charities department and a general contract could have been awarded. In the Monroe County government flour is purchased on contract. During the fiscal year ending October 1, 1914, the price per barrel was \$4.33. The city of Rochester could have very profitably followed this example. Monroe County also purchases milk, butter and eggs on contract and is saving money by this practice.

Other supplies, such as hardware, pipe fittings, etc., are used by various bureaus and departments. The purchase of these supplies should be made after quotations have been secured from a number of dealers. These quotations, if made on both large and small quantities, will secure lower prices and by a thoughtful combination of orders will secure the advantages of the large buyer for the department which only needs a small quantity.

Such a system of quotations and the elimination of "red tape" and unnecessary delay in the paying of vouchers will tend to secure trade and cash discounts for the city, which are practically unknown at this time.

RECORDS WHICH SHOULD BE KEPT.

Mention has been made in this report of the lack of records and tabulations which it should be the duty of the central purchasing department to keep.

Requisitions.

The requisition should contain space for noting the date of the previous delivery and the amount of supplies on hand at the time of the present request. Otherwise, the only check of the purchasing agent is by comparative expenditures. Requisitions should also contain blank columns for noting the bids obtained and whether by telephone, in writing, or otherwise. The requisition file would then give a complete record of the ordering of open market supplies.

If the goods are purchased on informal contract or advertised contract, the bids should be noted on a special bid tabulation sheet, and all requisitions entering into the combined order should be attached to this sheet.

Order Forms.

Prices are seldom entered on the order. It is obvious that the price extensions should always be made before the order is sent out.

Receipting for Deliveries.

The person actually receiving the supplies should receipt for their delivery. This receipt should be made on a special blank form which will insure the counting, weighing, or measuring of the supplies. Such receipt forms are frequently called "blind tallies." They should invariably be made out immediately upon receipt of the goods. Usually the delivery is certified to by inspectors or various foremen or superintendents a long time after the receipt of the goods. It is essential that deliveries be checked if for no other reason than to insure against ordinary mistakes. Intentional short weights and counts may be guarded against much better in this way.

Office Record of Deliveries and Orders.

A system of recording orders should be installed: For example, the quantity and value of each kind of supplies ordered should be entered against the names of each bureau, division, station house, or other unit. Then when the delivery receipt is returned, it should be checked against the orders. This record may be kept on the duplicate orders.

These orders should be transferred to a record of articles purchased which will show the quantity purchased on each order, the method of purchase, and the prices paid. This then becomes a current price file, handy for reference, which will prevent the payment of high prices in many cases.

Cash Discounts.

A card index of dealers should be kept which will show the frequency of bidding by and purchasing from each vendor. It should also show his cash and trade discounts, and his time limits for taking discounts. Payments may then be made to take advantage of such reductions. It is seldom that the city now receives a cash discount because of the long time it takes to pay bills. As cash discounts are seldom given after a longer period than ten days, except on special agreement, it may readily be seen that governmental red tape may cost large sums.

Central Storehouse.

Several other cities no larger than Rochester have found it financially profitable to operate a central storehouse in which is carried a stock of certain kinds of supplies. Such a central storehouse should, if established in Rochester, be under the direction of the central purchasing agent. When such a storehouse can be located with central repair shops, garage, and storage yards, it is particularly effective inasmuch as there is an inter-relation of all.

THE COMPTROLLER.

The powers and functions of the comptroller's office are well summarized in the charter—"the comptroller is the chief fiscal officer of the city." As in the other city officers during the survey, there was apparent a keen desire to improve the organization, methods, and procedure at every point where there might be need thereof. No audit of the accounts was made, but it was noted that the records were all posted up to date and neatly kept. The tone of the entire office was above the average of such offices. Inasmuch as most of the work devolving upon the comptroller relates to financial accounting and auditing, the larger portion of this part of the report is given over to pointing out the places wherein the present system of audit and accounts can be strengthened and the general efficiency of the office thereby further improved.

Expense Accounts.

Expense accounts as commonly understood set forth the cost of government on a consumption basis instead of on the basis of payment, i. e., they show the cost of services rendered and supplies consumed irrespective of the time when they were paid for. It is obvious that figures so computed are the logical and, in fact, the only safe basis on which to predicate appropriations. Furthermore, they are fundamental to ascertaining unit costs, and unit costs are essential to efficient administration in government fully as much as in commerce. No such accounts are maintained in the city government of Rochester.

It is immaterial whether expense ledgers be installed in each of the departments or whether all expense accounting be centralized in the comptroller's office, but it is very essential that adequate expense accounts be established somewhere and be under general ledger control in the comptroller's office.

It is equally desirable that such accounts be standardized and the standard classification thus adopted be adhered to throughout the year and from one year to the next. The results of a failure to adopt a proper classification and then adhere to it strictly are well illustrated by the present classification of expenditures. The "record of claims" now maintained in the comptroller's office furnishes the information used in the annual budget estimates and also the detail of expenditures set forth in the annual report of the comptroller. The variations in the classification of detail shown in the record of claims,

annual report, and annual budget estimates afford an illustration of the present lack of a standard classification of expenditures. The 1914 accounts examined related to the offices of the mayor, treasurer and comptroller. These were selected as being typical. Variations of the expense classifications or grouping were noted as follows:

	Mayor's Office	Comptroller's Office	Treasurer's Office
Total expense groupings in 1914 "record of claims"	8	10	6
Number of above set forth in:			
1914 estimate	2	2	1
1914 annual report	4	4	2
Expense groupings in 1914 estimate which were not in "record of claims"	1	7	4
Expense groupings in 1914 report which were not in "record of claims"	7	13	8

It was further noted in connection with the above named offices:

(1) That in the accounts relating to the comptroller's office, although there is a grouping for "blank books, check books, and claim blanks" (which is analyzed at the close of the year for purposes of the annual report), nevertheless a score of small items, such as scratch pads, inventory blanks, payroll blanks, ruled blanks, index cards, letterheads, postals, disbursement blanks, etc., were charged to an entirely different grouping entitled "office supplies."

(2) That in the accounts relating to the comptroller's office two purchases of "transfer cases" were charged to "office supplies," and an oak table to "other supplies," when, as a matter of fact, all three purchases should have been charged to an equipment account.

(3) That of two adding machines purchased by the treasurer's office, one was charged to "office supplies" and the other to "other supplies," whereas both should have been charged to an equipment account.

Centralized Accounting.

At the present time appropriation accounting and other financial accounting is carried on in each of the several departments, and there is thus a large amount of duplication between such departments and the comptroller's office. Many cities have recognized the advantages of centralizing practically all of their financial accounting in the office of the central accounting officer, which, in Rochester, is the comptroller's office. Since not only all payrolls but also all claims of every character must perforce clear through the comptroller's office and be recorded there, it would entail very little additional labor to

amplify the comptroller's records so that all similar records in the other departments might be eliminated. Not only would this plan effect a saving of time, and hence of money, but it would obviate entirely the condition which is bound to exist wherever there is decentralized accounting, i. e., discrepancies in the balances of accounts as shown between the central office and the outside departments. The system in the comptroller's office might easily be adjusted so that monthly statements could be sent out to each of the respective departments, informing them of their unencumbered and unexpended appropriation balances, if such information is desired by them, and also, if desired, the amount of expense incurred during the preceding month, the latter being set forth under adequate functional classification captions. However, if all orders are issued by the purchasing agent and first validated by the comptroller to show that funds are available, there should be less need for such information in the departments.

Contingent Liabilities.

In the following excerpt from section 23 of the charter, is an explicit prohibition against the incurring of liabilities in excess of the amount appropriated:

"No department, board, court or officer is permitted during any fiscal year to expend or contract to be expended any money, or to enter into any contract which by its terms involves the expenditures of moneys in excess of the amounts appropriated in the annual estimate adopted by the common council or otherwise lawfully added thereto."

Furthermore, section No. 140 says:

"It is the duty of the comptroller . . . not to permit any of the appropriations for the same, including the moneys lawfully added thereto, to be overdrawn."

The charter lays still further emphasis on this feature in section 162 where, speaking of the treasurer, it says:

"He must at no time permit any of the appropriations, including moneys lawfully added thereto, to be overdrawn."

While it is true that some question may be raised as to the meaning of the word "overdrawn," yet it can be fairly assumed that the meaning intended was that no appropriation should be over-encumbered or over-expended—that liabilities should not be incurred against any appropriation in excess of the amount thereof. Notwithstanding the interdictions of the charter cited above, the present accounting system provides no means whatsoever for preventing the over-encum-

bering of appropriations. There is nothing to prevent the incurring of liabilities in greater amounts than are appropriated.

The first information the comptroller has that an order has been issued and a liability therefor incurred is when he receives his weekly budget of vouchers (claims) from a department. By that time the commodities have not only been ordered, but have also been delivered and in many cases used. It is true that he receives a copy of the requisition sent by the department to the central purchasing agent, but these requisitions contain no amounts from which he might set up contingent liabilities, nor does he know whether purchase orders are in all cases issued on these requisitions. Furthermore, the requisitions do not even show the appropriations chargeable.

The reasons why it is desirable that the comptroller should be informed with respect to all contingent liabilities and placed in position where he can charge (as encumbrances or liens) the proper appropriations with the amount thereof, may be summarized as follows:

First, it is desirable as a precautionary measure so that he may adhere to the charter requirements with respect to appropriations not being exceeded and thus protect the interest of himself, other city officials, and of the city as an entity.

Second, it is desirable as a means of enabling him to close his books at the end of a year. Under the present system he has no knowledge at the end of a year of the amount of claims and contingent liabilities then outstanding, and it is, therefore, impossible for him to close his books without omitting a considerable proportion of sundry expenditure items which are actually chargeable to that year. What is done is to keep the books open until about January 15 and get in as many of the outstanding claims as the comptroller can obtain information of, and enter in the books of the ensuing years those claims which come to him subsequently. It is only natural that a large amount of claims goes over and at the end of the year is not included in the year to which they relate. For example, a cursory examination of the appropriation accounts as of April 1, 1915, showed that, although the 1914 books were kept open until the latter part of January, 1915, nevertheless 1914 claims continued to reach the comptroller's office as follows:

\$ 2,266.47 in January.

36,485.44 in February.

18,453.49 in March.

In this connection, it was noted that two claims of 1913 were not submitted and hence not charged (posted) until 1915. The salient feature of the above is that the comptroller had no information of the amount of these 1914 liabilities until long after the year had closed,

although they constituted encumbrances on the 1914 appropriations and reduced the balances available for expenditure. Moreover, not only the comptroller but the heads of the departments and the purchasing agent who issued the purchasing orders had no information as to whether the amounts thereof would constitute an over-expenditure of appropriations.

Third, it is desirable in order that the annual financial reports of the comptroller may reflect actual conditions. The reports now issued are misleading in that the 1914 report does not show the entire expenditure for that year. Nor do the reports for any of the preceding years show the expenditure for those particular years. For example, the 1912 report as printed (pages 48 and 54) shows the total expenditure for the year as \$4,661,894, whereas the 1913 report shows (page 54) \$4,743,984 as the expenditure of 1912—an increase of \$82,090, as per the following tabulation:

	1912 Expenditures Audited in 1912 and Reported in Comptroller's Annual Report for 1912.	1912 Expenditures not included in 1912 Books or Report and not Audited until 1913	1912 Expenditures Reported in Comptroller's Annual Report for 1913
General Administration	\$ 258,833.88	\$3,356.79	\$ 262,195.67
Protection of life, health and property	1,050,101.45	6,084.59	1,056,186.04
Charities and correction	116,984.86	39.43	117,024.29
Public highways and sanitation	954,904.78	52,652.27	1,007,557.05
Public instruction	1,224,184.85	3,338.23	1,227,523.08
Public recreation and celebration	286,722.61	3,630.59	290,353.20
Public utilities	224,570.70	8,280.49	232,851.19
Miscellaneous	545,585.86	4,707.55	550,293.41
Total	\$4,661,893.99	\$82,089.94	\$4,743,983.93

In order to ascertain from the published reports the total expenditures of any particular year, it is therefore necessary to obtain not only the report relating to that year, but also the report of the subsequent year, and even then there are necessarily amounts which are omitted because the comptroller has no means of ascertaining their existence. The current liabilities published each year as of December 31 are necessarily only an estimate, and in that respect prevent the framing of a correct balance sheet of the city.

Finally, the lack of liability accounting makes it impossible for the city officials to comply with section 141 of the charter, which stipulates the kind of information which must be included in the report.

Therefore when revising the present system, provision should be made that no purchase order be issued until it has been validated by the comptroller to show that a balance is available in the proper appropriation to cover the amount of the order. Such validation can be best facilitated by locating the purchasing agent's office adjoining the comptroller's office with the appropriation ledger bookkeeper at a connecting window.

Claimants' Ledger.

The comptroller does not maintain a claimants' or vendors' ledger, but does maintain a system of large 10x12 cards arranged alphabetically with a separate card for each vendor doing business with the city, on which is recorded the amount of each audited claim, together with the date and character thereof. The chief purpose of these cards is to prevent double payment of a claim. This card system is excellent, but should be carried to its logical conclusion in order to obtain the full benefit thereof. In the first place, it should be placed under accounting control of the general ledger and, secondly, a simple code designation should be adopted so that it would be possible to distinguish payments made on contracts from payments made on open market order purchases. This can easily be done by placing a capital "C" in front of the contract items, and a capital "O" in front of the open market order items. It frequently becomes desirable to know the amount of open market order purchases which have been made from a particular firm. Similarly, it is frequently desirable to know whether the purchases in a given line are sufficient to warrant entering into a contract instead of continuing the use of open market orders. It would also be of advantage for sundry reference purposes if the items were ear-marked as herein suggested.

Commodity Cards.

As an assistance in the auditing of claims for supplies, material and equipment, particularly with respect to the fairness of prices charged thereon, the comptroller maintains a set of commodity cards, arranged alphabetically, according to the various kinds of commodities. The prices noted on these cards are copied from invoices of previous purchases. They are used by the auditing clerk as a guide or test of the fairness of prices on subsequent purchases. It, therefore, transpires that the prices which are used as the basis for auditing any claim are those which were paid at the time that the particular commodity was last purchased. Obviously, such an audit of prices has but a limited value. As a basis for a more effective audit, it is suggested that a file of prices current cards be also maintained

by the audit clerk and reflect the lowest prices at which the city would be able to purchase—such prices being obtained from local dealers in the various lines. These data might be noted in red ink on the cards now kept, if so desired. In any event, the information should be kept up to date currently. Moreover, all supplies, material and equipment purchased should be posted to the commodity cards. At present only a part of the purchases are posted.

General Ledger.

Most of the summary and controlling accounts maintained in the general ledger serve their purpose satisfactorily. It has already been suggested herein that the cards which serve as a claimants' ledger be brought under accounting control of the general ledger. Even more important is the matter of general ledger control over the appropriation ledger (record of claims). At present there is no such control. Although there exists a general ledger account, which is a summary of the accounts in the appropriation ledger, it is not built up independently. It is posted directly from the appropriation ledger itself and, therefore, is not in any sense a controlling account in that it affords no tests as to the correctness of the postings.

Property Ledger.

It was stated that the property accounts in the general ledger formerly set forth the estimated annual depreciation on the different properties, but that this practice had been discontinued. It should be noted, however, that in compiling the annual report the comptroller still continues to insert the amount of estimated depreciation in each case. The computation of depreciation on the various city owned properties and entering thereof regularly in the official books is a most excellent plan and should be reestablished. Several cities have found it of much advantage to adopt specially designed property ledgers, which set forth not merely the cost of appraised value of each property but also full historical data with respect thereto, including a plat of the size and shape of the real estate.

Personal property is inventoried each year by the respective departments and the inventories filed as a matter of record and published in the annual report. No further use is made thereof. Their correctness is not even verified.

Monthly Reports.

An examination of the procedure which was turned over to the city at the time of the installation of the present system by the firm which did the work shows that they contemplated that monthly re-

ports of expenditures be rendered by each department to the comptroller. At the present time, the department of charities is the only one which conforms to this requirement. Centralization of the accounting functions would obviate the necessity therefor, and the procedure would be reversed, so that the monthly reports would originate in the comptroller's office and go out to the various departments. As a matter of fact, the comptroller now renders a monthly statement of expenditure to the officials of the public library.

Audit and Payment of Claims.

The principal defects in the method of auditing and paying claims are:

(1) Insufficient physical and chemical tests of deliveries. The correction of this defect involves the standardization of specifications and the establishment of a central testing laboratory, both of which are discussed elsewhere in this survey report.

(2) Inadequate audit of claims arising from open market orders. This has a close relation to the failure of the purchasing agent to obtain adequate bids or to maintain prices current cards, all of which is discussed in connection with the board of contract and supply. The inadequacy of the commodity cards used in the comptroller's office to test the fairness of prices is discussed under commodity cards in this report on the comptroller's office.

(3) With respect to deliveries, inadequacy of certification of those who are personally cognizant with the facts. Instead of relying on the certificate of the voucher that the supplies have been delivered in quantity as ordered, the use of "blind tally" receipt slips is recommended. Such receipts would be written in triplicate at the points of delivery, one copy sent direct to the comptroller's office and there filed (with duplicate copy of the purchase order) to await the invoice from the purchasing agent or vendor. The second copy of the blind tally would go to the central office of the department, and the third, a flimsy, be retained by the person at the delivery point. Such receipt forms have an advantage over the mere initialing or signing of delivery slips or invoices, in that it compels the receiver actually to examine and count what is delivered, and the signature of the receiver himself is attached to the receipt, whereas the signatures on the vouchers under the present system are not necessarily those of the persons who did the receiving.

(4) Too long a time required to audit. Dealers doing business with the city must make two separate trips to the city hall (or other department office) in order to receive payment of the amounts due them. The only exception is in respect to those dealers who do a large

amount of business with the city. They are furnished in advance with pads of prescribed voucher forms and usually have a notary public in their own employ before whom they can execute the required certificate. However, all dealers who do not have such a notary or are not furnished in advance with the pads of forms take the two trips to the City Hall. First they must go to the department where the requisition originated and to which deliveries were made, and there sign the following certificate:

“—————being duly sworn, says

That the foregoing claim against the City of Rochester is, in all respects, just and correct; that the services and articles charged therein have been actually rendered, performed, furnished and delivered for and to said city; that the standard or quality of the articles is as represented and charged for; that the sums charged therein are reasonable and just; that the said claim is justly due and owing to said claimant; that no payments thereon have been made; that no perquisites, commissions or allowances of any kind, other than as stated in the said account, have been or will be paid, directly or indirectly, in consideration of the procurement of the said articles or services; and that the foregoing or annexed statements are, in each and every respect, true.

Subscribed and sworn to before me, this

——— day of ————— 19—.

Commissioner of Deeds.”

It is to be noted that the certificate contains nothing which the comptroller's audit should not find out independently. It affords the city no additional protection to ask the payee whether his is a just claim. The proper place to protect the city's interests in buying is when the specifications are drawn, when the purchasing orders are issued, and when the claims are audited. In short, the present procedure results in making additional bother for the dealer without any off-setting benefit. If it is held necessary that the practice be continued, then the payee should be allowed to sign the certificate at the same time that he signs a receipt for his money and clean up the entire matter at a single visit.

The procedure incident to audit and payment of claims and the time required may be summarized as follows:

	Days Elapsed
1—Vendor to purchasing agent.....	1
2—Purchasing agent to department, for certification.....	1
3—Department to comptroller, for audit, the comptroller's books being closed at noon each Saturday.....	7
4—Published in official papers by comptroller, per charter requirement	8
5—Comptroller to treasurer; comptroller must hold claims at least five days after publication. This brings it to Saturday, so claims are held until Monday; then to treasurer, who prepares checks	7
6—Treasurer to comptroller, for counter signature of checks, and to treasurer, for disbursement	4
Average time	27

Practically all of the departments send their claims (vouchers) to the comptroller's office once each week. These weekly vouchers as assembled are known as the "weekly budgets." The charter (section 143) requires that the comptroller must, on Monday of every week, cause claims presented to him, or the substance thereof, to be printed in the official papers and he must take no action thereon until at least five days after such publication. The budgets as published set forth for every claim, (1) claim number, (2) number of claimant, (3) character of claim, (4) date, (5) amount. The cost of publishing these weekly budgets in the two official papers during 1913 was \$3,171 and in 1914 it was \$3,398. It will probably be larger each succeeding year. Moreover, it requires considerable time each week of a clerk and a stenographer to prepare copy for printing and to read galley proof thereof.

Perhaps the most serious criticism of the requirement is that it delays payment approximately twelve days, and hence is a factor in preventing the obtaining of cash discounts. The length of time which a vendor is required to wait for his money, considered together with the bother he is put to in obtaining it, naturally militates against efficient buying.

The procedure should be simplified so that all claims on which cash discounts are obtainable can be paid within ten days. Invoices should be submitted by the vendors direct to the comptroller. The latter official will already have in his files a copy of the purchase order previously sent him by the purchasing agent at the time the order was issued, and a copy of the "blind tally" receipt sent from the receiver at the point of delivery. These, together with contract specifications, of which he will also have a copy, will afford the basis for a prompt audit. Audit and payment of all claims subject to discount should be expedited. Other claims can as well be paid at a fixed time each month.

The charter requirement that all claims be advertised in the news-

paper and then held five days should be eliminated. After a claim is properly audited and its integrity established, advertising is unnecessary. With a proper organization and methods for purchasing and auditing, the city's interests will be adequately safeguarded without the present needless and expensive requirements.

Audit and Payment of Payrolls.

Preliminary to a discussion of the payroll procedure, a description of what is now done is necessary.

All employees are paid twice a month, except that teachers are paid monthly, and street, sewer and park laborers are paid weekly. The semi-monthly pay days are on the 15th and on the last days of the month. In order to pay on these dates, payrolls are prepared in the departments several days in advance of the close of the period to which they relate. For example, examination of several payrolls taken at random from the treasurer's files for the period ending April 30, 1915, showed that they were received in the comptroller's office from the several departments as follows:

Municipal Hospital.....	April 21
Police bureau.	" 22
Health bureau	" 21
Department of charities.....	" 24
Street and sewer bureau.....	" 26

Similarly, the fire bureau roll for March 16-31 was received March 25: the water works roll for March 16-31 was received on March 26: the police bureau roll for April 1-15 was received on April 7, etc.

A standard form of payroll is used for all departments, except that (1) there is a special form for teachers; (2) the police and fire rolls have the names of the employees printed thereon, and (3) the street and sewer bureau has a special weekly roll.

All payroll checks are made out by the treasurer. An individual check is written for each employee named on the rolls, except that in three cases single checks are made for the entire amounts of the respective rolls—(1) a single check is made for the total amount of Mt. Hope Cemetery employees' roll in the name of the superintendent, (2) for the street and sewer laborers in the name of the commissioner of public works, and (3) for park laborers in the name of the commissioner of parks. Of all three of the exceptions above noted, the official receiving the check cashes it and pays his employees in cash. They do not sign the payroll, nor does the treasurer receive any receipt from them.

The police and fire payrolls, together with the accompanying checks, are turned over to the police and fire headquarters, respectively, and from there to the commanding officers in charge of the various subdivisions of the service. The police bureau employees are each given a payroll check and are required to sign the payroll individually. In the fire bureau, each commanding officer signs on the payroll the names of all of his subordinates, takes their pay checks to the bank, and obtains cash therefor, which he disburses to them. All other city employees come to the treasurer's office and receive their pay checks there.

Payrolls are made out in the departments in duplicate. From the department the original goes to the civil service commission, and the duplicate to the comptroller. After the original is checked in the office of the civil service commission, it also goes to the comptroller. While waiting to receive the original (that being the copy which carries the certifications) the comptroller audits the duplicate by checking to the preceding payroll. He then sends both original and duplicate to the treasurer, who makes out the individual pay checks and stamps the check numbers on both the original and duplicate rolls. The treasurer then sends the duplicate back to the comptroller, together with the pay checks, so that the comptroller may countersign the latter (they having already been signed by the treasurer). The comptroller, in addition to countersigning the checks, compares them with the names and amounts on the duplicate roll. The checks are then returned to the treasurer for disbursement, and the duplicate filed in the comptroller's office.

All payroll checks are written out in long-hand, the same as checks in payment of sundry claims. The time required to write checks in the treasurer's office is equal to the entire time of two clerks. Approximately 2,000 payroll checks are written twice a month, and 1,500 once a month, making a total of approximately, 5,500 payroll checks each month.

Recommendations in Regard to Payroll Procedure.

From an administrative point of view, it should not be possible under a proper system of financial control for one individual:

To originate the record upon which a payroll is based

To certify to the correctness of a payroll, and

To handle the cash and pay off the employees whose names appear on the payroll.

Yet that is what is done in paying cemetery, park, and street and sewer laborers. No reflection is cast upon present officials, but it is

such practices as these which sometimes lead to the "padding" of payrolls.

The accuracy of all payrolls having been established in the comptroller's office, the city treasurer or one of his assistants should act as city paymaster in paying outside employees such as those mentioned.

The head of the department signs a certificate that the payroll is correct, but this is largely perfunctory. In many cases the person signing can have no exact knowledge of the facts. Moreover, the certificate includes a certification that the employees whose names appear on the payroll have rendered the service stated. This cannot be true, for the reason that the payrolls are received in the comptroller's office several days before the expiration of the payroll period.

It is suggested that payrolls be prepared from properly certified time reports immediately after the expiration of the period to which they relate. This would necessitate a change in pay day dates, but so long as no change is made in the frequency or regularity thereof, there need be no hesitancy about revising the dates. Time reports are so rare throughout the departments that the standard form of payroll has no mention whatever of them in the payroll certificates. Such reports properly certified to are the proper basis on which to prepare a payroll, and the fact that they are on file and in support thereof should appear in the certificate attached to the payroll.

The lack of proper receipts on payrolls should be immediately remedied. It is suggested that a system of pay cards be installed. Such systems are used with advantage by many of the large employers of labor.

The necessity for city employees coming to the treasurer's office to receive their pay checks is not apparent. Pay checks should be distributed through the various organizations. This could be done with facility if a separate payroll sheet were prepared for each unit of organization. If this were done, it would be possible to obtain a certification by the person directly in charge of each group of employees. Such certification should certify that the names of employees, the time of service, and the code chargeable shown on the payroll sheet were correct and that there was on file a time record duly certified by such person in direct charge of employees, showing the character of service and the exact time of employment of all employees named on the payroll, and that the distribution of time shown is in accordance with such time record. The certificate should also contain a clause that the work of all employees is in accordance with their civil service title and exclusively for the benefit of the city of Rochester.

Duplicate payrolls seem unnecessary. They have recently been abolished in New York city, with a consequent saving in the time of

preparation and auditing of payrolls. Plenty of time can be allowed to audit payrolls in the comptroller's office after they have been approved by the civil service commission and before date of payment without having duplicate rolls.

In New York city the preparation of payrolls, the certification by the civil service commission, and the audit by the comptroller are all conducted in one and the same office. After the names, rates, number of employees, and budget schedule lines are inserted, the payrolls, of course, are issued from this central office to the outside departments, so that the time of employment and the compensation due and the necessary certifications may be inserted by persons having knowledge of the facts.

Instead of checking a payroll to the preceding roll as a means of audit, a roster of city employees should be used, otherwise an error at any time may be perpetuated throughout the balance of the year.

Provided it is permissible under the charter, it is suggested that after the integrity of a payroll has been established, a check be drawn for the total amount of the payroll and be signed by the treasurer and countersigned by the comptroller in the usual course, but that thereafter it be deposited in a separate bank account maintained for the payment of pay checks and that separate pay checks signed only by the paymaster be drawn against this bank account for each individual employee named on the roll. The signing of each of the many checks by two individuals would thus be obviated.

In these days of mechanical devices the writing of checks by pen and ink by hand is antiquated. New York has recently installed a machine which writes 7,500 pay checks per hour. In Rochester this equipment could also be used for the writing of water bills and for other purposes of a similar nature. It would do the work several times as fast as the machines Rochester has at present for water bills. If the present form of payroll were slightly revised, all the information now contained thereon, with the exception of the check number and the amount, in cases where broken time appeared, could be written by these machines. It is suggested that the system recently worked out and installed in New York city be studied in this regard.

Debt Limit.

The constitutional debt limit of 10 per cent. of the average assessed valuation for the past three years applies to Rochester. Although there have been some court decisions relative to what should be included as debt within the meaning and intent of the constitution, there are some points in the Rochester debt statement which have not been adjudicated. It is, therefore suggested that the comptroller obtain a legal

opinion from the corporation counsel and from the city's fiscal agency in New York relative to just which items in Rochester's debt statement should be included and which excluded when computing the borrowing margin.

Temporary Loans.

The common council from time to time authorizes the issuance of short time notes (section 96 of charter) for periods not exceeding eight months. These notes are issued to get money for (1) public improvements; (2) local improvements, and (3) current expenses. Those issued for public improvements are usually funded by the subsequent issuance of local improvement bonds, and those issued for current expenses are paid from the collection of general taxes.

The plan of issuing notes from time to time to get money to meet payments as due on authorized improvements and later funding such notes with bonds is sound, as is also plan No. 2 mentioned above. Such methods save interest charges. However, with respect to issuing notes to pay current expenses pending the annual collection of taxes, it would seem that a better plan is available—one that would obviate the necessity of issuing such notes, and save to the taxpayers, or make available for other purposes, the amounts now paid each year as interest on such notes. In 1913 interest paid on notes issued in anticipation of tax collections amounted to \$20,068, and in 1914 to \$16,757. During the first four months of 1915 (this part of the survey being made in May) \$1,516,000 was borrowed in anticipation of tax collections.

County taxes are payable in January and city taxes May 1. In 1914 the county levy on city property was \$881,958 and the city levy \$4,250,290—a total of \$5,132,248. It, therefore, appears that the city taxpayer pays only approximately 17 per cent. of his total tax on January 1. If, instead of paying only 17 per cent., he were permitted to pay 50 per cent. in January, it would be even better, because it would distribute his tax burden more equally and make it easier for him to meet. Such a plan could be best effected by having either the county treasurer collect both county and city taxes or by having the city treasurer collect both. Probably the former would be preferable. The city assessors already fix the valuations on which county taxes within the city are predicated, and it would be equally good business policy to have one of the two governments collect the taxes for both. The city treasurer should continue to collect special assessments and water rates prior to their becoming delinquent. That such a plan would be more convenient for the taxpayer has been mentioned. The particular advantage to be gained, however, would be

that it would bring into the city treasury at the beginning of the fiscal year money to pay the obligations which begin to be incurred then, instead of the city being compelled to borrow money each year to pay its current expenses during the first four months of the year. The present unequal collection of city revenue during the twelve months is well illustrated by the following tabulation of revenue collections during 1914:

January.....	\$ 29,007.43
February.....	23,554.15
March.....	116,435.90*
April.....	21,101.13
May.....	3,515,393.86
June.....	374,168.34
July.....	189,972.81
August.....	103,300.98
September.....	89,487.18
October.....	308,582.21**
November.....	190,316.37
December.....	194,244.17

*Contains \$92,796 from state for schools.

**Mostly from liquor licenses.

Eliminating the March income, which was available only for schools, it is obvious that less than \$100,000 of revenues were received during the first four months. Moreover, a large proportion of this amount consisted of license fees available only for sinking fund purposes.

Under the suggested plan, the large amount now received in May would be divided—approximately 40 per cent. of the city taxes being collected in January with the county taxes. The aggregate of these would equal approximately one-half of the total city and county tax and leave the other half (about 60 per cent. of the city tax) to be collected at a subsequent date. The moving forward of the budget making and tax levy dates is recommended elsewhere in this report in connection with the subject of budget making and prebilling taxes.

Instead of the assessors doing their field work from June to November as at present, it should be begun April 1st—two months earlier—and continue to September 1st, the property being assessed as of September 1st instead of December 1st as now.

From September 1st to 15th could be set aside for hearing grievances, passing on them, and correcting the tax books.

From September 15th, or if longer time is desired for the above work, then from October 1st to 31st, would be time in which to write up the assessment rolls.

The appropriations for the ensuing year should be required to be

made by October 31st. The tax rate could then be fixed November 1st. The month of November would be available for making extensions on the rolls and the month of December for preparing the tax bills—all of this work being done in the assessor's office. The completed rolls and tax bills would be turned over to the treasurer December 31st for collection. From January 1st to April 1st, when field work begins again, the assessors would be preparing their books, checking up records, and getting ready for the next year.

Taxes could thus be made receivable January 1st—the first day of the fiscal year. Such a plan would not interfere with the present procedure in levying county taxes.

With respect to the above dates, it should be clearly understood that they are only by way of illustration. Even though each date be changed, the fact remains that the present schedule of dates is illogical and inconvenient and can be improved. Simply because many other cities adhere to illogical dates of assessing and collecting taxes and passing budget appropriations is not a good reason for Rochester's continuing to do so.

Sinking Funds.

It is to be noted that the charter (section 96) permits the common council to issue bonds "without creating a sinking fund or making other provisions for the redemption thereof."

Although the cash basis or serial plan possesses advantages over the sinking fund plan, and this should be kept in mind when making capital improvements in the future, the fact is that the city of Rochester has already established several sinking funds—practically the entire outstanding indebtedness being on a sinking fund basis. The charter goes into great detail in laying down definite rules with respect to the character and amount of revenues which shall be paid into each sinking fund, nine entire sections of the charter being devoted thereto. Before discussing the adequacy and propriety of these charter requirements, it is necessary to state at this point that there is only one sound and sane method of building up sinking funds, and that is to do so on an actuarial basis. This principle is now generally recognized as fundamental to sound financing. The administration of a sinking fund is a scientific problem and demands scientific treatment. The cardinal rule to be followed is that such an amount should be paid into the sinking fund each year which will not only distribute the burden over the period of the life of the bonds for which the sinking funds are established, but be such that at maturity of the bonds the sinking funds will contain an amount comprised of the annual installments plus the

annual increment—sufficient to pay the bonds. The annual installments should not produce either a surplus or a deficit.

The provisions of the Rochester charter ignore entirely the principle of actuarial computation. To work out each of the city's sinking funds on an actuarial basis for purposes of this report is unnecessary, but it should be done by the comptroller's staff. As an illustration of the actuarial method, it has been applied herein to the water sinking funds and a table thereof included in that portion of the report relating to the water works bureau.

Notwithstanding the definiteness which the charter plainly endeavors to lend to the solution of the sinking fund problems, its requirements are nevertheless a "hit or miss" method. They may result in either a surplus or a deficit. Instead of the annual installments for each sinking fund being determined each year by careful compilation of maturities and annual increment, (1) lump sum amounts are appropriated, and (2) entire classes of revenues are made exclusively applicable to sinking funds. A fair illustration of the method used is afforded by section 151 of the charter, which is as follows:

"The general sinking fund is continued with the moneys now contained therein. There must be placed to the credit of said funds each year any unexpended balances of the appropriations made for the support of the city government for the previous year, and any surplus revenue received and not expended by the city the previous year, except revenues from Mount Hope Cemetery, unless such unexpended balances or revenues are directed by this charter or by law to be otherwise applied; also any percentage of gross receipts paid to the city by any street surface railway company, provided such gross receipts are not deducted from taxes paid or owing by said railway company; also any surplus remaining in a sinking fund after the redemption of the bonds to pay which the sinking fund is created, except sinking funds created for the redemption of water works bonds. The unexpended balances do not include the moneys of the fiscal year lawfully made liable, obligated or contracted to be paid, and not paid at the end of the year; but the same must be retained to apply on such liability, obligation or contract. The moneys in the general sinking fund may be used to retire bonds of the city now or hereafter issued for which no sinking fund or an insufficient sinking fund is provided."

The provisions relating to the other sinking funds are of the same general character as those cited above.

An essential of proper sinking fund administration is that there shall be maintained a complete circle of sinking fund accounts, and that there shall be produced at stated periods a complete sinking

fund balance sheet. The accounts maintained should make it possible to show not only all of the sinking fund assets, but to show on the liability side reserves for the exact amount which should be on hand at that particular time, irrespective of whether the assets actually do equal it, exceed it, or fall short thereof. In short, a sinking fund balance sheet should reflect the exact amount of surplus or deficit at that particular time.

Serial Bonds.

It is suggested that hereafter only serial bonds be issued. Throughout the country, sinking funds are becoming obsolete as a method of paying indebtedness, because however well they may be administered, it is a cumbersome method of accomplishing the desired result. Not only is there the initial obligation to keep the funds properly invested, but equitable assessments upon the taxpayers during the period of the loan involves complicated mathematical computation if the debt is to be paid at maturity. Evidence is abundant in cities, counties and states throughout the country of funds to which proper contributions have not been made from year to year, with the result that upon maturity of the loans these funds were found to be short of the amounts necessary to pay the debts for which they were created.

The serial method of paying debt not only obviates the administrative requirements of the sinking fund method, but it also is cheaper and imposes a lighter burden upon the taxpayers. Moreover, its operation is so simple that it is easily understood by the average citizen.

A recent legislature of Massachusetts passed a law that neither the state nor the cities or counties within the state might issue sinking fund bonds—that only serial forms were to be issued. The chief statistician of the state bureau of statistics, which has supervision over all local bond issues, stated that, contrary to the expectations of many, there had been a larger demand and better prices had been secured for the new serials than for the sinking fund bonds.

In this connection, it is worthy of note that the city of New York lately obtained legislative permission to issue serial bonds because it would save the taxpayers' money. The city recently marketed \$46,000,000 of fifty-year sinking fund bonds and \$25,000,000 of serial bonds maturing in from one to fifteen years. Both bore 4 1-2 per cent. interest and although many expected the long term sinking fund bonds to sell at the higher rate, they brought only an average price of \$101.253, whereas the fifteen-year serials averaged \$101.306.

Term of Bonds.

The only restriction in Rochester's charter relative to the term of bonds is that they shall not be issued for a period exceeding thirty years.

In connection with the citation of the Massachusetts law with respect to the kind of bonds permitted to be issued, it is worthy of notice that Massachusetts has also adopted a definite schedule of maturities for the several purposes for which bonds may be issued. The object of this schedule is to coordinate, so far as possible, the life of the bonds with the life of the assets to be purchased from the proceeds of the bonds. The condition has been found to exist in that state, as it does in many communities throughout the country, of issuing bonds for a period of two or three times as long as the life of such assets. Rochester would do well when planning subsequent issues to adhere to the Massachusetts principle.

Additional Revenues from Licenses

While there are theoretical objections to the use of licenses as a revenue producing measure, all cities rely upon licenses of various sorts to supplement the revenues derived from direct taxes upon property. The receipts from this source in each of the ten cities whose population most closely approximates that of Rochester are reported by the census bureau as follows for 1913:

City	Estimated Population	Business Taxes (a)	Non-Business License Taxes (b)
Kansas City (Missouri)	273,000	\$566,000	\$109,000
Indianapolis	253,000	365,000	91,000
Portland (Oregon)	246,000	468,000	60,000
Providence	240,000	302,000	15,000
Denver	237,000	399,000	22,000
ROCHESTER	235,968	239,748	11,338
Louisville	233,000	514,000	44,000
St. Paul	231,000	432,000	6,000
Columbus	199,000	312,000	33,000
Toledo	180,000	318,000	5,000
Oakland	175,000	267,000	32,000

(a) For revenue

(b) For regulation

Under both classifications Rochester stands relatively low. The inference from this is not necessarily that license rates in Rochester should be increased in order to increase revenues, but there obviously is opportunity for such action should it be deemed advisable.

CITY TREASURER.

Collection and Custody of Funds.

The city treasurer is not only the custodian and disbursing officer of city money, but he is also the collecting officer of taxes, water rates, and certain miscellaneous revenues. This is good organization. In fact, the accounting and auditing control over the accrual and collection of the sundry other miscellaneous revenues now collected by outside departments would be facilitated, and the convenience of the public better served, if authority to collect them were also centralized with the treasurer—the comptroller being sent duplicate copies or schedules of the bills direct from the department where the accrual originates.

The method of handling water rates collections is discussed in that portion of this report relating to the water works bureau. The signing and disbursing of pay checks are considered in connection with the discussion of the comptroller's office.

Time of Assessing and Collecting Taxes.

The system of assessing in Rochester lends itself readily to pre-billing taxes to the taxpayers, i. e., preparing all tax bills prior to the time the taxes are receivable and having them ready for distribution at that time. Property is assessed according to its description—section, block and lot—and not against individuals. In the other two first-class cities of this state assessments are levied in the same manner, and in both cities a pre-billing system is used.

In Rochester the pre-billing plan has not been adopted, however. The treasurer advertises in the local papers that he will send tax bills to all who make application therefor, and he does receive a large number of applications, and makes out the bills and delivers them by mail. He thus obviates a large proportion of the congestion which would otherwise exist in his office during the taxpaying period. He also encourages taxpayers to pay by check through the mail instead of coming personally to the City Hall. However, large numbers of taxpayers come to the City Hall to pay in person. They become packed in front of the single counter available to them and are compelled to stand for a considerable period while waiting for their tax bills to be made out. In this connection it is to be noted that the floor plan of the treasurer's office is so arranged that an inadequate counter space is provided and there is room for only three cash cages. The trans-

action of business in this office would be greatly facilitated by a rearrangement of the floor plan. If the pre-billing system were adopted there would be no need for less counter space but more cages: if not adopted, there is need for both more counter space and more cash cages. The advantages of a pre-billing system are that taxpayers desiring to pay their taxes are not required to wait in line while their bills are being made out, and the clerical work in the collection office during taxpaying period is greatly simplified. Moreover, there are far less errors in bills and postings than when the bills are made out hurriedly during the rush season.

These advantages are recognized by the present treasurer and he is in favor of the pre-billing plan either by typewriter or in longhand, but charter amendments are necessary before such a system can be adopted in Rochester.

In the first place, the treasurer cannot pre-bill because he does not receive the rolls from the assessors sufficiently early to afford time in which to make out tax bills prior to May 1, the date they are receivable. Second, the assessors cannot pre-bill or even turn over the rolls earlier to the treasurer because they do not receive advice of the tax rates from the common council sufficiently early. The charter stipulates that the levy shall be made on April 1, or within five days thereafter, and the assessors have only until May 1 in which to apply the rates to the valuations on the rolls, and make their extensions. Third, council cannot determine the tax rates earlier without moving the whole budget-making and property-assessing process back to earlier dates, as has already been recommended herein. Fourth, water rates and local assessments that are delinquent on March 1 must be added to the tax rolls when they reach the treasurer's office, and there is but a very short time in which to do it.

The advantages which would accrue to the city by moving forward to an earlier date the assessing and budget-making processes would well compensate for the trouble involved in effecting the change.

Small Balance Uncollected.

Attention is directed to the fact that the treasurer collects the entire amount of the rolls turned over to him, except for a very small margin. The real and franchise taxes of 1913 remaining uncollected on December 1, 1913, were only \$64,734, out of a roll of \$4,176,687, and \$149,698 on December 1, 1914, out of a roll of \$4,682,678.

The personal tax loss on the amount assessed is practically nil. This is evidently due to the fact that forty or more collectors are sent into the field for a period of forty days each fall and are allowed 5

per cent. on all collections they make during the period, the 5 per cent. being added to the amount of the tax.

Bank Deposits.

An examination of the interest rates secured from the various depositories having city money on deposit indicates that a fairly high rate of interest is being secured. It varies according to the character of funds. At the time of the survey, sinking funds in banks were earning 3 1-2 per cent. and 4 per cent., according to the bank: pension funds, 3 per cent. and 4 per cent.: special funds, 2 1-2 to 4 per cent., and current checking accounts 2 1-2 per cent.

The banks which are to be used as depositories of city moneys are designated by the board of estimate (section 162 of charter). Usually all of the local banks are designated. The treasurer is free to distribute the money according to his own judgment. There are no charter or other restrictions with respect to the latter, either as to the amount of capital, surplus, or average deposits of the banks selected. However, each depository is required to put up collateral in the form of liability company bonds. A record of such collateral surety is kept in the comptroller's office, as are also the bonds, and the comptroller follows a general policy of requiring each depository to have on hand an amount of bonds equal to approximately one-half of the amount of deposits in the particular depository.

As an additional precaution, it is suggested that an ordinance be adopted or, better still, that the charter be made to include a provision whereby deposits of city funds in any institution shall be limited to a definite and fixed percentage of the combined capital and surplus of such institution.

At present, the city has no assurance of the stability of its depositories other than the bonds of local surety companies, and the ability of such companies to avoid making reimbursements on bonds furnished municipalities has often been demonstrated. As an illustration of what we have in mind, the method now used by the city of New York may be cited. The four factors entering into the plan on which the distribution is made between depositories in New York are—

First: Amount of bank's capital and surplus. Ten per cent. of the combined capital and surplus of a bank is taken as a minimum basis. Thus a bank with \$3,000,000 capital would be entitled to receive \$300,000 deposits.

Second: Rate of interest. For every 1-4 per cent. above 2 per cent. interest, an additional 2 1-2 per cent. of the capital and surplus is added, up to 20 per cent., which is the maximum. Thus, if the \$3,000,000 bank offers to pay 3 per cent., it is

entitled to an amount equal to 10 per cent. of the capital and surplus, in addition to the first 10 per cent., making \$600,000 in all.

Third: The ratio of capital and surplus to the bank's general deposits. The question here is one of safety. A ratio of five times as much in deposits as the amount of capital and surplus is taken as normal. The variation of one unit above or below causes a variation of 1-2 per cent. in the amount of city deposits. Thus, in the case specified, if the bank had ten times as much deposits as its capital and surplus, a deduction of five times 1-2 per cent., or 2 1-2 per cent. would be made, reducing its maximum city deposits from \$600,000 by \$75,000, leaving it at \$525,000.

Fourth: The amount of money the city has to deposit. In New York, in arranging transfers between depositories, those that offered to pay 3 per cent. receive the maximum to which they are entitled, except in a few cases where they restricted the amount themselves on which they would pay 3 per cent. The remainder of the city's funds are then distributed among those that offered to pay 2 1-2 per cent., in the proportion of the maximum to which they are entitled. As the city's total balances vary, the effort is made to preserve this proportion among the 2 1-2 per cent. banks in round amounts.

CITY CLERK.

Functions.

Under charter provision the city clerk acts as secretary of both the city council and the board of estimate and apportionment. He prepares and publishes records of the proceedings of these bodies, acts as clerk of the various committees, has charge of the city's advertising, and, in short, performs all of the duties customarily performed by the clerks of municipal legislative bodies in other communities. He also makes out license documents, for certain kinds of which he collects fees and issues licenses. The functions of the office appear, as a whole, to be well administered.

The procedure incident to the granting of licenses and critical comment thereof is set forth in detail elsewhere in this report. It is recommended that all work incident to the issuing of licenses be transferred to the treasurer's office, together with one employee. The city clerk will, of course, continue to issue marriage licenses and certain other licenses which are under state control.

Need of Bureau of Information and Complaints.

There is need in the Rochester city government for a bureau of information and complaints. It should be located in the City Hall. The city clerk's office is logically the organization to serve as such a bureau. This is true by reason of the fact that the employees of that office are currently familiar with the status of all pending ordinances, including those relating to local improvements, resolutions of all kinds, estimates, appropriations, advertising, election matters, street dedications, extensions, etc. The city clerk's office can almost serve as an information bureau without additional effort; it certainly could do so without additional employees. Similarly all that would be necessary for it to function as a bureau of complaints would be to establish a system of registration thereof and a means of following up each complaint to be sure that it receives proper attention from the officers or department to whom it is referred. The only important change in the organization of the city clerk's office necessary to enable it to clear information and complaints properly is to move the office to the first floor of the City Hall in the quarters now occupied by the accounting division of the water works bureau. There is no need for the latter being located where it is. In fact, it should be nearer to the other public works offices. On the other hand, the proper place for

the city clerk's office, from every point of view, is on the first floor. When it is located there, a sign should be prominently displayed near the front door, informing the public that information and complaints are handled by the city clerk and directing them to the location of the latter's office.

LICENSE PROCEDURE.

The city's license procedure involves several different offices, but it seems proper to discuss it at this point in connection with the office of city clerk. Practically all licenses are made out in the city clerk's office. With respect to marriage licenses, dog licenses, hunters' licenses and two or three others, he also collects the prescribed fees thereof. Licenses for ice and milk dealers and scavengers are issued and the fees collected by the health department.

The following licenses are controlled by the police bureau through its license bureau:

- Auctioneers.
- Bill-posters and advertisers.
- Cartmen
- Employment agencies.
- Growers.
- Hucksters.
- Junk dealers.
- Pawn brokers.
- Pool, billiard and bowling alleys.
- Public vehicles and jitneys.
- Shows and circuses.
- Second-hand dealers.
- Stationary engineers.
- Chief engineers.
- Portable and hoisting engineers.
- Theatres.
- Moving picture shows.
- Motorcycles.
- Moving picture show operators.
- Night watchmen.
- Transient merchants.

The license bureau also issues permits for the distribution, by hand, of advertising matter, canvassing, and street wagon advertising.

The license bureau is in charge of a patrolman detailed from the uniform force. He is supposed to conduct whatever investigations are required in connection with the issuance of licenses. He in-

vestigates complaints, maintains a record of licenses, and conducts sporadic inspections of licensed premises.

Complicated License Procedure.

All licenses are technically issued by the mayor. The actual procedure for the issuance of licenses relates chiefly to the license bureau and is quite involved, in fact, unnecessarily so. It is as follows:

1—Application is first made to the license clerk of the police bureau.

In most cases the application is not in writing, and even when it is, with the exception of pool and billiard licenses and public vehicle licenses, no printed forms are provided on which to write it. The head of the license bureau determines whether the license shall be issued. In some instances, conclusion is reached as a result of investigation, of which he makes no record, but in the majority of cases he determines whether the license shall be issued by interviewing the applicant at his office. When it is decided that the license shall be issued, he gives the applicant a small printed form which is a direction to the city treasurer that a license should be accepted by him.

2—The applicant then takes this slip to the city treasurer's office on the first floor of the City Hall, a quarter of a mile away. Upon receipt of the prescribed license fee by the treasurer, the latter gives the applicant a receipt for the amount paid.

3—The applicant then goes to the city clerk's office on the third floor of the City Hall, produces his receipt and is informed that a license will be issued.

4—The city clerk then prepares the license and takes it to the mayor's office on the first floor, where the license is officially signed or stamped with the mayor's name.

5—The clerk of the license bureau each day visits the mayor's office, receives from the secretary such licenses as have been signed and mails them to the applicants.

In a large number of cases the above procedure is further complicated by reason of the applicant's going first to the city clerk and there being told to go to the license clerk of the police bureau. License documents are purchased by the city clerk through the board of supply, and the comptroller has no audit thereof.

Employment Agencies.

There are seven employment agencies operating in the city, one of which conducts a theatrical business. The fee for employment agencies is \$25 per year, and the applicant is required to file a bond of \$1,000. There is no requirement that the employment agencies file

a monthly report of the fees received by them, nor is there any inspection of their premises, either sanitary or to determine whether living rooms adjoin or sleeping apartments are connected. This condition should be corrected. The issuance of the license is discretionary with the head of the license bureau, although, of course, the mayor has the right of final decision. The head of the license bureau states, however, that in no case has his decision been reversed. This would seem quite natural, since when he denies a license he does not make any record of the reasons, or in fact that the application has been made. Both should be a matter of record. The form of application used in employment agency licenses is a typewritten statement by the applicant in which he declares that he will abide by all of the laws governing employment agencies, states his name and address, and furnishes the police bureau with two statements as to his character by citizens of the city. In this application he should also be required to furnish such information concerning himself or his previous business as will facilitate investigation.

The application and the bond are filed in one of the drawers of the clerk's desk instead of in proper files. Complaints made concerning employment agencies may be made at the precinct station houses, in which case there is no rule requiring that the license bureau be notified in order that it may have a record of the complaint and the disposition thereof. This should be required.

Moving Picture and Theater Licenses.

As in the case of practically all other licenses, there is no regular form of application for moving picture and theater licenses. When application is made, the officer in charge of the license bureau notifies the fire marshal over the telephone of the name and location. Subsequently, the fire marshal notifies the license bureau over the telephone of the result of his inspection, and upon this telephone message, of which no record is made at the license bureau, the license is issued. Special attention is called herein to this failure to prepare written reports and records and thus definitely fix responsibility relative to licensing these amusement places, because of the numerous questions involved concerning adequate fire protection, health and morals protection, etc.

Moving picture operators are licensed as a result of an examination by a board of examiners, but no picture of the moving picture operator is placed upon the license. This should be required as a means of preventing transfer of licenses to incompetent persons. As a protection to the public from the carelessness of operators, other cities have found such a precaution necessary.

How to Simplify the Procedure.

All license forms should be made out and issued by the treasurer and countersigned by him or his deputy upon receipt by him of the amount of license fee required by ordinance, except that licenses for which the approval of the mayor, fire marshal, health officer, or other officer is requisite should not be issued until written approval of such officer is obtained. Blank forms should be available in the treasurer's office upon which prospective licensees should be required to make their applications. In the case of licenses requiring the approval of other officers, as above indicated, the application form should provide for such report and approval. In transferring the work of making out licenses from the city clerk to the treasurer, one employee should also be transferred from the office of the former to the office of the latter.

The original copies of all licenses should be made on safety paper bearing the engraved signature of the mayor. The documents should be purchased only by the comptroller and a supply thereof kept on hand in the vault of his office, the quantity and kind being posted as debit entries in proper financial stationery ledger accounts. They should be issued to the treasurer only upon requisition. The kinds and document numbers so issued should be credited to the proper ledger accounts above mentioned and debited to the treasurer in a special financial stationery ledger account representing issues to that office. The credit entries to this latter account should be made from periodical reports rendered by the treasurer, showing the numbers of each kind of documents issued, spoiled, and remaining on hand. Such reports, accompanied by duplicate copies of licenses issued and supplemented by an occasional inspection of documents on hand in the treasurer's office, would serve as a basis for auditing the amount of money reported by the treasurer as having been received for licenses.

Documents which have a varying date of termination or which may be issued for varying amounts should include a graduated coupon on the right side of the document so devised that, when cut with an angle-cutting rule at the time of issuance, the highest amount (which shall be the amount received) will remain on the document and the other half of the coupon will remain on the duplicate license which is turned over to the auditor, it being required that each license be made out in triplicate; the original for the licensee, the duplicate for the comptroller, and the triplicate remaining in the license book of the treasurer. After the duplicates have been checked by the auditors in the comptroller's office, they should be turned over to the license inspectors. Except in the case of marriage licenses, hunters' licenses, fishing licenses, etc. (which by reason of statutory require-

ments, it may not be possible to make conform to the other license procedure) there is no occasion for bringing within the circle of license procedure either the mayor's office or the city clerk's office.

Expiration Dates of Licenses.

All licenses, except for moving picture operators, hucksters, and dog licenses, expire on December 31, and no provision is made for part time fees or rebates. Thus a person desiring to operate a summer open-air picture show would be required to take out a license for the entire year.

The fact that all of the licenses are made to expire on December 31 makes it practically impossible to give the attention needed to investigation of (1) whether in all cases new applications should be granted and old ones renewed and (2) whether all who should have licenses actually obtain them promptly. It also greatly handicaps the license clerk in the clerical work incident to issuing and recording licenses.

With respect to those licenses which have varying terminal dates, i. e., moving picture operators' licenses and hucksters' licenses, the fact that they expire one year from their date of issuance makes the work of inspection of such licenses difficult.

Each of the several kinds of licenses should expire at a fixed date, but the dates of expiration should be sufficiently far apart to prevent congestion in the issuing office and also to permit sufficient time for investigation. The best plan is to specify by ordinance certain kinds of licenses which shall terminate at the close of each of the twelve months respectively. For example, four or five kinds should terminate on January 31, four or five others on February 28, etc. Fees of certain kinds of licenses should be arranged so as to permit of prorating or shorter term licenses than a year.

Inspection of Licenses.

The members of the police force are required, while on patrol, to observe licensed premises or businesses and those which should be licensed but are not. At each precinct there is kept a record of licensed saloons, and complaints made against them or arrests made in connection with them. From time to time each police captain makes a tour of inspection through his precinct to determine the faithfulness of the patrol officers in reporting licenses. However, no record is made at the precincts of these inspections, nor is there any list of all places holding licenses within each respective precinct.

In the case of second-hand dealers and junk dealers, an officer from headquarters visits each of these premises daily to collect from

them their list of property purchased during the preceding twenty-four hours. In the case of pawnbrokers, the detective bureau has a man visit each one, each day, to secure their lists. These lists are useful to the police bureau in tracing stolen and lost goods. Pool and billiard places and bowling alleys are inspected weekly by patrolmen detailed from the respective precincts, and the patrolmen on their beats are required to enter pool and billiard parlors during each tour of duty. Moving picture shows are visited and inspected both for licenses and general conditions by an inspector from the fire marshal's office and by the policewoman. The same practice applies to theaters.

There is, however, no organized inspection of licensed premises for purposes of observing at definite periods. Shortly after the first of the year the license clerk goes over his records to determine which of the licenses that were held during the last year have been renewed, and notifies the precinct commanders. Upon this notification inspection is made and the owners of the premises notified to renew their license.

Accompanying a rearrangement of the procedure of issuing licenses, there should be a change in methods of inspection. The bureau of licenses in the police bureau should be abolished. Inspection of licenses is in the nature of a field audit, and is hence a proper function of the comptroller's office. However, it is unnecessary for that officer to maintain a staff of license inspectors because the police force is already available for such work. He should, however, have the nucleus of an inspection staff. Two men should be sufficient. To avoid the necessity of appointing additional employees, the present license officer and one other might be transferred to the comptroller as license inspectors and given desk room in either the comptroller's office or that of the treasurer. Upon receipt of the comptroller's duplicate copy of a license, they should immediately prepare a card record thereof in triplicate. This can readily be done by purchasing cards in strips and typing them at a single writing by carbon process. If each of the three copies is of a different color, it will facilitate filing and reference. One set should be filed alphabetically according to kinds of licenses, another set alphabetically by names of licensees, and the third set alphabetically by street. Having built up such a system of cards, the two inspectors can readily check up on all licensable occupations, businesses, etc. The cards can be made to fit loose-leaf pocket binders, and the set which is filed by streets taken into the field for inspection purposes, only as many cards being taken out at one time as can be handled in a day. The cards should provide space for recording all pertinent facts relative to licensees. If licenses are

made terminable at different fixed dates instead of only at the end of the year, it will greatly simplify the work of these two inspectors. If, as the number of licenses increase, it is found that two inspectors cannot handle the work, a certain day each month should be set aside by the police bureau as license inspection day and each patrolman on beat be required to report relative to licenses in his jurisdiction on that date. This method of using the entire police force on license inspection with the overhead inspection from the comptroller's office has been found to produce better results than a continuous inspection by the entire force as at present.

Wagon plates, tags, and other evidences of payment of license fees, which are given supplementary to the license document, should be delivered by the treasurer at the time the licenses are issued.

DEPARTMENT OF ASSESSMENT AND TAXATION.

General Statement.

Rochester has an able board of assessors and a competent office force in the department of assessment and taxation. The assessors are familiar with the principles underlying their work and they are generally informed as to the methods employed in the cities which are regarded as leaders in the matter of property assessment. They have a creditable record in the amount of personal property placed on the rolls, and they have recently taken steps to raise the level of realty assessment which still compares unfavorably with the basis which prevails throughout the county.

In most cities where property assessments are fixed at less than full value the reason given is that a low basis of assessment is necessary to protect the city against the low assessments placed on property in the outlying towns with the idea of escaping a part of the just burden of county taxes. In the case of Rochester this argument does not apply, for according to results of the county equalization, it is the city and not the town assessment that is furthest from the basis required by law. It is imperative, therefore, that the assessors of Rochester continue and increase their efforts to place the taxable property on the rolls at its actual value and that the citizens be made to understand that nothing is to be gained by underassessment.

Functions.

The department of assessment and taxation is charged with the assessment of real and personal property (except franchises) for taxation, including the hearing and determining of appeals to review by the courts. It extends the city taxes upon the city tax roll. It is also responsible for the spreading of assessments over the parcels of real property benefited by local improvements—a feature of the work which is discussed, however, in that section of this report relating to the department of engineering.

Organization.

The department is administered by a board of assessors of four members, two of whom are elected at large every two years for a term of four years. There are no deputies, the only subordinates in the department being members of the office force consisting of a chief clerk,

a second clerk, and a stenographer, one local improvement clerk, and seven junior clerks, all women in the classified civil service.

Whether considered with reference to the amount of work to be done or to the number of men required to do such work in other cities, the department would seem to be undermanned. There are 60,000 parcels of property in Rochester. According to the experience of the department of taxes and assessments of the city of New York, one man with a clerk as an assistant working five or six months in the field can properly assess a maximum of 10,000 parcels, and, in the case of congested business property, 4,000 parcels. A city of the size of Rochester, according to this standard, should have no less than six and preferably eight deputy assessors, each responsible for a particular district, which should be a district in which he lives or with the realty conditions of which he is familiar. This would relieve the assessors of a part of their field work—for they should continue to spend some time in the field—and enable them to develop and apply standards for the appraisal of different varieties of plots and buildings, and to search for taxable personal property. During the months when field work is impracticable, the deputies can keep in touch with transfers, building operations, etc. The returns of each deputy should be checked by another to insure against favoritism.

Upon this point Dripps and Post's pamphlet on real estate and its taxation in Philadelphia is instructive:

"The city should be divided into assessment districts, and no district should contain more than 10,000 parcels of real estate. In sparsely settled territory, where the parcels of property are large, and in congested centers where the parcels are of irregular shape and values are high, the number of parcels in any one assessment district should not exceed 4,000. One assessor should be assigned to each district. As a rule assessors should serve continuously in the same district, becoming more and more familiar with its values and conditions. It is impossible for one man to be thoroughly familiar with values in more than a comparatively small section. It might, however, be desirable to provide occasionally for an interchange of assessors between districts, or, at any rate, to see to it that each assessor spends certain days in every year making the rounds with an assessor of another district."

Buffalo has recently reorganized its department of assessment along the lines suggested, and the results of the first year demonstrated the wisdom of the change. In Rochester, as was the case in Buffalo, the city has outgrown its department of assessment, and in the meantime assessment standards have been raised. The wonder is not that the assessment level in Rochester is low, but that, overburd-

ened with work, the assessors have been able to discharge their responsibilities as well as they have.

A district system with the necessary deputies will mean larger expense, but here is a case where low cost means the reverse of economy, for this is the department upon which the city government relies for its support. That the burden shall be applied fully and equitably, is a matter of interest to every taxpayer and to every person who is the beneficiary of the expenditure of public funds.

Calender of Assessors.*

*See report on the office of comptroller for proposed change in the fiscal calender.

June—November—Field work.

December 1—Assessment date.

January 15—Complete real and personal rolls.

January 15-31—10 days—Receive applications for abatement.

February—March—Revisit properties concerning which complaints have been received.

April 1—Enter in city rolls water, water frontage, sprinkling, snow removal, etc. charges.

April 1-5—Common Council confirms rolls.

April 15-20—Apportion tax levy upon taxable property as set down on rolls.

April 20—File copy of rolls with city treasurer.

September 15—Add bank stock assessment to rolls.

October 1—File county rolls with county supervisors.

Field Work.

Beginning in June and continuing until December three of the assessors work in the field, leaving the other member of the board in charge of the office. There being no deputies, no assessment districts have been created and the assessors go over the whole city together. A closed automobile has been provided for their use so that work may be carried on in all weathers. In the field the assessors carry the roll of the preceding year as a field book and enter therein the tentative assessment for the current year.

Sources of Information.

The department receives daily the deeds which have been presented to the county clerk for recording. The necessary changes are entered upon the office rolls and maps and the deeds are then stamped and returned. No reliance is put upon the consideration set forth in

the deeds, but special attention is given to the internal revenue stamps which indicate the actual cash consideration in each case.

All information received from whatever source that will aid the assessors to fix a proper valuation is entered in cipher in the "Remarks" column of the office roll.

Factors of Land Value.

Land values are determined on a unit basis, the unit being one foot frontage on an inside lot and extending back one hundred feet. The Somers rule has been adopted for measuring the value of lots of varying depth in the business section. The value of the unit is determined with reference to all the information which the assessors can obtain as to transfers, leases, etc., and after consultation with real estate operators.

Corner influence is applied only to the corner lot itself regardless of its size. The loading is 25 to 30 per cent. in the business section and 20 per cent. in the residence sections.

Railroad property is assessed upon a square foot basis, with special reference to the values of neighboring parcels of property and to the type of construction of the tracks and other improvements.

Block and Lot Maps.

Block and lot maps have been provided for the entire city, and the assessors regard them as indispensable. These maps are kept up to date as the deeds are received from the county clerk's office.

Land Value Maps Needed.

There are no land value maps, though the value of such maps as an aid to the equalization of values is admitted by the assessors. All the data necessary for the preparation of such maps are now available.

The use of such maps is regarded as indispensable by assessors in cities where they have been adopted. Whether carried in the field by the assessors or made for reference in the office, they simplify the problem of equalization of values of neighboring parcels and of similar parcels in different sections of the city.

Factors of Structural Value.

The New York City classification of buildings has been adopted for the appraisal of buildings. In some cases the cubic foot unit is used; in others, the square foot. No rule of structural deterioration has been adopted. Earning power is considered in the case of business property.

Building permits issued are reported monthly to the assessors.

Buildings in the course of construction are noted during the progress of the field work and revisited shortly before the closing of the rolls to provide a basis for partial assessment.

Separate listing of land and building values necessitates the determination of standards of value for use in assessing buildings. This involves not only the classification of buildings but also the determination of standard factors of value for each class. Such factors having been used, to the result in each case must be applied a proper deduction for depreciation,—obsolescence, deterioration, etc.

In Cleveland the assessors engaged an architect to prepare schedules of costs of each class of buildings. They then prepared a list of questions so arranged that a deputy could be sent out to obtain information upon which the value of each house could be figured, other deputies being used to verify the answers in case the returns showed on their face the probability of error. In Buffalo the classification appears upon the field sheet carried by the district deputy assessor. The result is to place the appraisal of buildings upon a scientific basis and to lessen the possibility for a successful appeal against a proper assessment.

Applications for Abatement.

In January property owners are notified by advertisement that the rolls are open to public inspection. Complainants are required to file a formal application for abatement upon a form which provides for a sworn statement of all the facts in the case. These applications are considered by the assessors in formal meetings, and two of the assessors revisit the properties in question. About six hundred applications were received in 1915.

Revision of Assessment.

The charter provides that the common council, within the first five days of April in each year, shall "hear the allegations and complaints of all persons interested who appear" and that "after making such amendments and corrections to the annual tax rolls reported to it as they deem proper" it shall confirm such rolls (Sections 107-108).

It is understood, however, that the common council has not concerned itself with the revision of assessments within recent years. Under the present charter it would seem to have authority to take such action as is necessary to raise the assessment level to a point nearer the full-value basis required by law, by assembling data in advance for use during the short period within which it must pass on the rolls.

The plan suggested has been recently tried with good results by the commission of Reading, Pa., which, with the co-operation of the chamber of commerce, undertook to have an appraisal made of representative blocks in different parts of the city. Such study need not be limited to lands and improvements but should include personal property as well.

Assessment of Personal Property.

No special organization is provided for the assessment of personal property. Card notices are sent out in January to persons whose social or business prominence indicates the possession of taxable personal property. These notices set forth the amount of the assessment and the ten days within which the board of assessors will be in session to hear allegations. Blank forms are also sent out to corporations who must make returns or accept the assessment placed by the assessors. Corporations are included in the same roll with individuals. In 1914 the total personal assessment was \$8,359,600; in 1913 it was \$8,132,800.

No attempt is made to assess household goods, which under the tax law are exempt to the extent of \$1,000. To the extent that a man's household goods and personal effects exceed that amount he is a fair subject for taxation. As a practical matter the assessment of such property is difficult, and there are theoretical objections to the practice as well. So long as the requirement remains in the tax law, however, an attempt should be made to comply with it, if for no other reason than to secure its repeal. The assessors should be able to derive their own factors of value and their own formulae from the style of the house, from the rental, and from general observations.

Annual Assessment Roll.

The charter requires that the office copy of the annual assessment roll shall be prepared by wards, each ward being bound separately. Entries are made geographically in the realty roll and alphabetically in the personalty roll. These rolls must be completed by January 15th. Between that date and April 1st, when a copy of the rolls must be filed with the city clerk, the assessors may add property to the rolls or increase the value thereof upon notice and after hearing, and they may also make such corrections as they think proper.

Before filing the city rolls, the assessors must enter therein charges on account of water frontage, sprinkling, snow removal, etc., and unpaid water rents upon certification of the commissioner of public works or the comptroller.

Within the first five days of April the common council confirms the rolls and makes the tax levy, after which the assessors must extend the tax on the rolls. This must be done by April 20th, when the rolls must be filed with the city treasurer for collection.

On September 15th the assessors add the bank stock assessment to the county rolls and by October 1st, file the ward volumes with the supervisors of the various wards. The assessors are not concerned with the extension of the county tax upon the county rolls.

The assessment roll of 1914-1915 amounted to \$225,720,640, exclusive of exemptions. This roll was divided as follows:

Real estate	\$202,737,920
Personal	8,359,600
Franchise	14,623,120
	\$225,720,640

Exempt Property.

Each year the assessors submit to the clerk of the board of supervisors of Monroe County a detailed list of all exempt property, showing the owners, description, reason for exemption, and valuation of each parcel. This statement is published in the newspapers without recapitulation.

Rule of Value.

While the New York tax law requires the assessment of property at full value, the board of supervisors' equalization in 1914 established the fact that the Rochester assessment for 1913-1914 was 80 per cent. of actual value, a ratio which was lower than that of any of the outlying towns. It was stated that since that time the assessment of realty has been advanced about \$12,000,000, or about 6 per cent.

Publicity.

Property owners are free to consult the assessment rolls and maps in the assessor's office at any time. An annual report is submitted to the mayor and published in the mayor's message, where it occupies about a page and a half. It would seem desirable to amplify this report so that it may provide a medium through which the assessors could acquaint the property owners with their policies and their methods. There are few public questions concerning which the public is so much in need of enlightenment as the assessment of property for taxation. The public is justified in looking to the assessors for such information as is presented in the annual reports of the department

of taxes and assessments of the city of New York, in the form of text, tables and maps.

As soon as they are prepared, land value maps should be published annually either by the city or through a real estate periodical and sold at a nominal price. The time of publication should be just prior to the opening of the assessment rolls to public inspection.

Full publicity is essential to full-value assessment, for property owners will be certain to oppose increases in their assessment as long as they are allowed to remain in ignorance as to the necessary reduction in the city tax rate or the increased public services that must result from the adoption of the only basis of assessment that is recognized by the laws. The honest property owner is concerned not so much with the amount of his assessment as with the relation of that assessment to the assessment placed upon like property owned by his neighbors. The proper method of approaching him is through publicity.

DEPARTMENT OF PUBLIC SAFETY. OFFICE OF THE COMMISSIONER.

ORGANIZATION.

Commissioner of Safety Administrative Head.

The department of public safety includes bureaus of fire, police, health, and buildings. The administrative head of the department is the commissioner of public safety, who is appointed by the mayor and may be removed at will by him.

The commissioner is in complete control of the administration of these four bureaus, each of which is under the immediate supervision of an executive head appointed by the commissioner.

All appointments, promotions, retirements and dismissals are made by the commissioner pursuant to the civil service rules and regulations. The executive heads of the bureaus of fire, police, and health serve during good behavior and may be removed only for cause, while the executive head of the bureau of buildings serves at the pleasure of the commissioner.

General Office.

The commissioner, in his administration of the department, is assisted by a secretary appointed by him and removable at his pleasure. The secretary serves as a confidential aide to the commissioner, and supervises the general office, reviewing reports, interviewing complainants, maintaining the records of the department, and occasionally investigating complaints.

The clerical force consists of one bookkeeper, one clerk and a stenographer. The bookkeeper records all claims made against the department or its bureaus. The clerk receives and examines claims and is in charge of the filing of documents, while the stenographer performs general stenographic service for the commissioner and his secretary.

Reporting System Defective.

Although the commissioner, in his administration of the affairs of the bureaus of police and fire, receives currently considerable information as to the activities and operations of these two important divisions, he does not receive reports prepared in a manner which facilitates a general review and determination of the efficiency of the

bureaus. The reports are improperly prepared because they are not upon a comparative basis, and they are so numerous and cover such detailed routine matters as to make it impossible for the commissioner, in the time allowed by his other duties, to read and digest them.

He receives no current statements of work from the bureau of buildings except concerning matters where the law requires his personal approval. The only formal report he receives from the building bureau is the annual report of the bureau. The reports from the bureau of health are in the form of letters covering current matters.

From the bureau of police the commissioner receives, daily, a copy of practically all reports made to the chief by subordinate officers, no matter how trivial the subject. These reports are filed in such a manner as to make ready reference difficult. There is also defective control over protecting them against loss.

Notwithstanding the great amount of information, most of it important, which reaches the office daily, the commissioner is without information of a character necessary to enable him to exercise proper administrative control. His office is without proper records of the personnel of the various bureaus, of the property of the department, of the pension fund or of the crime complaints received.

Although the chief of police makes a monthly report of his activities, listing the services rendered, the complaints of major crimes and arrests classified as to crimes, the commissioner is without properly compiled crime statistics because of the failure of the chief to provide a report upon a comparative basis and under a proper crime classification.

It is therefore recommended that the chief of the bureau of fire, the chief of the bureau of police, and the superintendent of buildings, each be required to file, daily, a comprehensive report which will fully describe the activities and operations of their respective bureaus during each twenty-four hours. The form of this report is suggested in the section under heading "Records and Reports."

APPOINTMENTS.

Lack of Character Investigations.

Appointments to the police and fire forces are made by the commissioner of public safety from the certified civil service list.

Except in cases where the department has received complaint or notice that the character of a person about to be appointed is bad, no character investigation is made either by the department of safety or the civil service commission.

The applicant is not required to furnish either the civil service commission or the department of safety with information sufficient to form the basis of an investigation of his character and references without undue delay. While he is required to state the character of his business or employment for the last preceding five years, he is not required to furnish the names and addresses of his employers during the same period, nor the reasons for having severed his connection with them. He is asked to state whether or not he was ever convicted of crime, but not whether he was ever arrested.

It is important that policemen shall be recruited from among men of excellent character and reputation. A great part of their work as policemen is devoted to the prosecution of persons accused of crime, in which their testimony is usually the most potent factor. In the performance of their duties in the enforcement of law, policemen are subjected to much temptation, and have considerable opportunity to obtain money and other gratuities in exchange for license to violate the law. Therefore, it must be apparent that too much care cannot be exercised in the investigation of the character of men desirous of joining the police force, and to this end, all applicants should be required to furnish detailed information concerning their previous history, and this information should be the subject of careful investigation.

The investigation should not only be made at the time of the original examination, but immediately prior to appointment, as well, since it would be possible for a man to have served a term of imprisonment between the time of his being examined and the time of his final appointment.

To conduct this investigation the commissioner should provide a definite procedure, which should include the requirement that applicants, at the time of taking their civil service mental test, answer upon a specially provided printed form certain questions concerning their prior history. This statement should be sworn to and filed, not with the civil service commission, but with the commissioner of safety. At the time of appointment, or immediately following the certification of the names, the commissioner should then cause to be investigated the three or four persons at the head of the list, thus making it unnecessary to investigate the entire list at any one time.

Applicants Not Required to Furnish Proof of Age.

The statement under oath made by applicants as to their age in making their application is accepted by the civil service commission as proof of age.

It is recommended that candidates be required to furnish, in the form of birth certificates, baptismal certificates or affidavits from relatives, proof of their age. This should be required as a protection to the pension fund. The suggestion is made because of the discovery, in New York and Chicago and other large cities, of frauds having been practiced with respect to the ages of men joining the police and fire departments.

Physical Examination Conducted Too Far in Advance of Appointment.

Applicants for appointment to the police and fire forces are given a physical examination and athletic test immediately prior to the mental test, which serves to eliminate candidates from the mental test who fail in the physical test. This is in keeping with good practice, except that the department is not furnished adequate protection against men becoming policemen who are physically unfit, because it would be possible for a man to pass the physical test at the time of taking the mental test and contract a disease or disability between that date and the date of his appointment, which may be two years later. Therefore, it is recommended that all applicants receive a physical examination prior to their appointment.

No Physical Examination at End of Probation.

As a further protection to the pension fund, it is essential that all policemen and firemen receive a thorough examination at the end of their probationary period, which is not done at present. This would serve to eliminate from the force men whose physique is such as to indicate, after three or six months of service, that they are not physically equipped to perform the duties imposed upon them.

No Certificates of Appointment are Issued.

Policemen and firemen do not receive a certificate of appointment. It is recommended that the commissioner provide a special form of certificate to be given to each policeman and each fireman at the time of his appointment.

Probation Rule Not Enforced.

While the civil service rules and regulations require that policemen and firemen shall serve a probationary period of three months, this rule is not observed either in the bureau of police or fire, since no report is made at the end of three months concerning recruits, and

no special procedure is in force which would tend to determine the fitness of the recruit during the probationary period.

It is recommended that the commissioner of safety request the civil service commission to fix the probationary period for policemen and firemen at six months, and that the executive heads of the bureaus be required to report upon the recruits' service during that period. Provision should be made requiring the recruits to pass an examination which shall be conducted in a training school, and requiring that the results of this examination be certified to the commissioner of safety by the civil service commission.

PROMOTION.

No Efficiency Records.

Promotions are made as the results of competitive civil service examinations. While the negative record, by which is meant the record of delinquencies of members of the police and fire bureaus, is considered in rating policemen and firemen in promotion tests, no credit is given for exceptional duties or for acts of bravery involving a risk of life. No efficiency records of any kind are maintained, although the civil service commission regards the negative record as a basis of efficiency rating.

In the examination for promotion in the fire bureau, no practical tests are conducted.

In order that the promotion tests may be strictly upon a merit basis, it is recommended that the commissioner cause to be installed, in all of the bureaus under his jurisdiction, efficiency records which will serve both as a basis for computing the merits of the work performed and as a guide to him in the assignments to duty. These records should be upon a merit and demerit basis, giving proper recognition for intelligent and faithful service and demerits for indolence and delinquencies.

In the promotion tests conducted for advancement in the ranks of the fire bureau, practical tests should be made and the chief of the bureau should serve as one of the judges.

Board of Honor Should Be Established.

Members of the police and fire bureaus who perform distinguished acts of bravery receive no official recognition. Moral and physical courage may be said to be among the chief qualifications of both policemen and firemen. Both these qualities should not only be recognized but rewarded. Exceptional courage is called for, and when dis-

played should receive departmental recognition. Therefore, it is recommended that a board of honor be established which shall consist of the commissioner of safety, the president of the civil service commission, and the chief of the bureau of fire (for the consideration of cases affecting firemen), and the chief of police (for the consideration of cases affecting policemen). This board should meet at least once a year. Two gold medals should be provided, to be officially known as the department medals; one to be awarded to the fireman performing the most heroic act during the year, and the other to be awarded upon the same terms to a member of the police force. These medals should become the property of the persons to whom they are awarded. To all others who perform acts of bravery involving risk of life, honorable mention should be awarded. To the men who perform duties in which they exhibit extraordinary intelligence or efficiency, but without risk of life, recognition under the heading "Commendation" should be awarded. Presentation of these medals should be made, with fitting ceremonies, by the mayor.

These medals should be given by the department regardless of any medals which may be donated or given as perpetual gifts by public-spirited citizens or organizations. The firemen and policemen to whom medals are awarded should be permitted to wear a small gold star upon the sleeves of their uniforms, immediately above the service stripes. The members receiving honorable mention should wear a silver star, and those receiving commendation, a bronze star. Commanding officers should be required to report in detail upon each act of bravery called to their attention. Such reports should be the result of careful investigation and should contain the names and addresses and complete statements of witnesses.

Medals for Best Suggestions Affecting the Service.

In order to stimulate the police and firemen to keep in touch with modern practices by observing, reading and studying, members of the police and fire bureaus should be invited by the commissioner to make suggestions in writing concerning matters affecting the service. These suggestions should be written upon blank sheets without the name or number of the person making them. They should be enclosed in an envelope specially provided, upon which the name and number of the author should be written. All of the suggestions should be placed in the hands of a committee, the identity of the authors not being disclosed to them, and to the policemen and firemen making the best suggestions the department should award medals.

The civil service commission should establish special weights to be given members of the police and fire bureaus receiving medals, honorable mention or commendation, and these weights should be considered in favor of the men in grading them at promotion examinations.

City Clerk Should Notify Commissioner of New Ordinances.

The city clerk is not required to certify to the department of safety the ordinances which the police bureau is obliged to enforce. If new ordinances are passed and published in the newspapers, the chief of police sends to the city clerk for a copy. The procedure should require that the city clerk certify to all departments of the city government new ordinances affecting the respective departments.

Salaries of Attaches of Court Should Be Charged to Court.

The salaries of the two probation officers, the Italian interpreter and the court stenographer, all of whom perform duties in connection with the administration of justice in the police court and who are appointed by the commissioner of safety, should not be charged against the administration of the bureau of police. The probation officers should be appointed by the court and work under the supervision of the judge. Their salaries should be charged against the appropriation for the police court.

SURGICAL DIVISION.

The department of public safety employs a surgeon for the bureaus of police and fire, at an annual salary of \$2,400. His functions include the examinations of applicants for appointment to the police and fire forces, visiting and giving medical treatment to policemen and firemen injured in the performance of their duties, examining members of the police and fire bureaus who report sick, rendering medical and surgical aid to prisoners confined at the police stations and examining all policemen and firemen for retirement on disability pensions.

His duties as prescribed by the rules of the department with relation to the police bureau are as follows:

- a—"Visit any member of the police force reported disabled and report his condition to the chief.
- b—Attend and prescribe for all prisoners confined at police

headquarters when necessary; to keep a record of each person so visited.

c—Make a written report to the commissioner monthly, and an annual report in January of each year.

d—Make charges in writing to the chief against any member of the bureau who shall seek to evade duty on pretense of sickness or whose disability is due to intemperance or immoral habits.”

With relation to the bureau of fire, the duties of the surgeon are described as follows:

a—“The department surgeon shall examine all applicants for appointment who present the proper credentials.

b—He shall promptly visit all sick or injured members, when so requested by commanding officers.

c—He shall report to the commissioner and to the chief of the bureau when each member off duty, on account of sickness or injuries, is fit for duty.

d—He shall report to the commissioner, annually, as soon after the first of the year as practicable, the names of persons treated by him during the preceding year, the nature of their injuries or ailments, with any suggestions he may deem necessary for the promotion of the health of the members of the department.”

Method of Reporting Cases of Illness.

A member of the police or fire bureau, when sick or disabled and unable to report for duty, notifies his immediate superior, who in turn notifies the chief of the bureau and the surgeon of the department.

The surgeon, except in cases where the disability was acquired in the performance of duty, or where the chief is suspicious of the person reporting ill, does not visit nor require the policeman or fireman to report at his office.

The report of the case as filed by the surgeon merely shows the name of the person reported ill and does not show either diagnosis or prognosis. In cases where a member of the police or fire bureau is ill for more than a few consecutive days and the illness is not due to an injury received in the performance of duty, the family physician

of such member certifies as to his illness by writing or telephoning the department surgeon.

Neither the chief of the fire bureau nor the chief of police receives any notice from the surgeon as to the date of return to duty of the men on sick leave.

When the illness of members injured in the performance of duty is such as to require the services of a specialist, as for example, an operative surgeon, eye specialist, etc., the department surgeon retains him and he is paid from the appropriation of the bureau to which the patient is assigned.

This practice is pursuant to section 329 of the charter which provides that the commissioner, when authorized by ordinance of the common council, may compensate officers and members of the police and fire forces for loss of personal property and for medical and hospital expenses arising from injuries incurred in actual performance of duty in an amount fixed by such ordinance.

All policemen and firemen are paid full pay during their absence on sick leave, providing the absence in a case of ordinary illness does not exceed six consecutive months.

Amount of Time Lost Due to Sickness Excessive.

The number of days lost due to sickness in the fire bureau is exceptionally high, and the number of days lost by policemen is much in excess of normal.

During the year 1914 there were 114 cases of illness among members of the bureau of fire. Of this number thirty-three were cases of firemen injured in the performance of their duty. These 114 firemen were absent for a total of 5,353½ days.

During the year 1914 there were 284 cases of sickness reported among the members of the police force, of which twenty-nine were for illnesses resulting from injuries received in the performance of duty. These 284 policemen were absent from duty a total of 3,111 days.

Inasmuch as the department has no records of the causes of illness, it was not possible to make any tabulation or study of the kind of injuries received or the predominating causes of sickness.

The number of days lost, due to sickness in the fire bureau, added to the number of days vacation granted and the regular leaves on days off, is so large as to hamper the work of the bureau and result in a weakened force.

Surgeon Makes No Reports.

Notwithstanding that the rules of the department require that the surgeon shall report to the commissioner each month and shall file an annual report in the month of January each year, the commissioner receives no report from the surgeon, nor does he maintain any continuous health record of the force.

Neither the police stations nor fire houses are inspected by the surgeon.

Injured Prisoners Attended by Surgeon.

Considerable of the surgeon's time during the year is devoted to attending prisoners at the central police station. Prisoners who have been injured or complain of illness, regardless of the precinct in which they have been arrested or detained, are transferred in the patrol wagon to the central station and there attended by the police surgeon. This practice is continued despite the fact that the city contributes annually \$2,000 to each of the four hospitals for the maintenance of an ambulance service. In cases where the injury is such as to require the removal of the prisoner to the hospital, the ambulance is summoned at the order of the surgeon. It would seem advisable, in case of serious injury to a prisoner in one of the outlying precincts, that he be removed immediately to a hospital in one of the ambulances. But the fixed custom is followed: he is brought in a patrol wagon to the central station, there examined by the police surgeon, and subsequently removed to the hospital.

Surgeon Permitted to Have Business Relations With Subordinates.

In the police and fire bureaus, as in all semi-military organizations, the surgeon is ranked as a superior officer. This is because his functions include admitting applicants to the police force, exercising disciplinary measures in the event of policemen or firemen pretending illness, and the retirement of disabled members upon pension. Nevertheless, he is permitted to include among his private patients, police and firemen and their families, thereby having a business relation with them.

Procedure in Reporting and Recording Sickness Should Be Revised.

The whole procedure in reporting and recording illness among members of the police and fire forces should be revised so as to pro-

vide the department with proper records, protect the department against the imposition of fraud by pretended illness, and keep the police and fire forces strengthened by reducing the number of days lost due to illness.

Members of the police and fire bureaus, upon becoming ill, should be required either to visit the surgeon personally or to be visited by him if their condition warrants it. The surgeon should be required to certify in writing the name, badge number, cause of illness, and diagnosis in each case. This report should be forwarded to the chief of the bureau to which the sick man is attached, and in turn forwarded by him, after having been entered upon the personnel card in the office of the chief, to the commissioner of safety.

As soon as the sick policeman or fireman is able to report for duty, the surgeon should notify the chief of the respective bureau, in writing, stating the hour at which the policeman or fireman has been directed to report.

In no case should a private physician's certificate be accepted in lieu of a visit and report of the department surgeon.

Without in any way reflecting upon the present incumbent of the office, and without inferring that any irregularities exist, it is urged that the commissioner adopt a rule prohibiting the department surgeon from having any business relations whatever either with members of the department or their immediate families.

The commissioner should require that all emergency cases occurring at any of the police stations be attended to by the regular ambulance service of the city, and that the ambulance be sent direct to the precinct station in which the injured or sick person is detained.

Both from the point of view of the city's obligation to its employees, and in view of the cost to the city of its pension system, the utmost care should be taken of the health of the policemen and firemen. To this end, in order that the administrative and executive heads shall be properly guided in the matter of assignments of the members of the force, every policeman and fireman should receive a thorough physical examination once during each year, and detailed health records of each member should be maintained.

The commissioner of safety should require a monthly report from the surgeon, which report should state concisely the activities of the surgeon and the health conditions of the forces during the month.

The surgeon should be required to make monthly inspections of the police stations and fire houses and to report upon these inspections in his monthly report.

POLICE AND FIRE ALARM TELEGRAPH SYSTEM.

The fire alarm and police telegraph system is well organized, operated and maintained. The equipment of the fire alarm division is housed on the second floor of a fire-resisting section of the building formerly occupied as fire headquarters. The equipment consists of a combined automatic and manual Gamewell system, of modern construction and in excellent condition. Two telephone systems, the Rochester Company and the Bell, have switchboards in the alarm distributing room and each of the firehouses is connected directly with these boards.

Organization.

The system is in charge of a superintendent who reports directly to the commissioner of safety. He receives a salary of \$2,000 and is responsible for the maintenance and operation of the police telegraph signal system as well as the fire alarm system.

His staff is divided into two divisions, namely the fire alarm operators and the police signal operators. The salaries of the employees of these divisions are paid out of the funds appropriated for the respective bureaus.

In the division of fire the staff consists of one acting superintendent, seven operators, one cable splicer, two laborers, and two line-men. In the division of police, the staff consists of one chief operator and six operators. The equipment in the division of police consists of two switchboards of the two telephone companies, with telephone lines to each of the six precinct houses, which are connected with police signal boxes distributed throughout the city.

Fire Alarm Boxes.

There are in operation 367 fire alarm boxes located at an average distance of five hundred feet apart in the congested value districts, and 1,100 feet apart in the outlying or suburban districts. All of the boxes are painted red and are equipped with an electric light and red globe for night service. They are in good condition and well distributed.

More than 83 per cent. of the circuits are underground and the inspection service is excellent.

The old type of boxes with the brush-break contacts is being rapidly replaced with boxes of the successive type.

Maps and Charts.

The alarm division is well equipped with maps and charts indicating the location of the circuits, fire alarm boxes and other information necessary in the administration of the bureau.

Copies of the maps showing the location of the boxes should be made and distributed to the fire houses.

Records and Reports.

The records maintained by the superintendent of the fire alarm system are not such as would enable the establishment of a unit cost for new construction work. No time reports are made by the employees, nor job reports on repair and construction work.

The superintendent makes a daily report to the commissioner of safety, which report is in accordance with good practice.

The superintendent should be required by the commissioner to maintain proper unit cost records.

Chief Has No Control Over Division.

Although the fire alarm system is the nerve center of the fire bureau, the executive head, namely the chief, has no official connection with the division nor control over it. The superintendent responds to all alarms in the congested value district and to all second alarms throughout the city. He supervises the installation of new boxes and construction work, determines the location of the boxes, with the approval of the commissioner of safety, and reports directly to the commissioner. No separate appropriation is made for the operation and maintenance of his division, so that neither he nor the chief can determine the amount of money to be expended annually for the activities of their respective divisions.

It is vitally important in the management of the fire bureau that the chief of the bureau exercise control over the distribution of alarms, and it is recommended that the commissioner place the chief in charge and have the superintendent report directly to him.

Telephone Alarms Should be Treated as Box Alarms.

Alarms received over the telephone result in the sending of a different amount of apparatus than if received over the box circuit. They are transmitted to the two nearest hose companies and one truck

company by telephone. A card index of streets, with the numbers of the nearest hose companies and truck companies indicated thereon, is maintained for the use of operators in despatching apparatus in response to telephone alarms.

This is a practice long since condemned by those who have studied the management of fire departments as dangerous and inefficient.

If it is wise and necessary to prepare a running card for the distribution of apparatus in response to alarms, it is equally wise and necessary that the same running card apply to alarms received by telephone. It is therefore recommended that all telephone alarms be handled in the same manner as if received from a box, resulting in the same amount of apparatus being despatched.

DEPARTMENTAL RECORDS AND FILES.

The records of the department of safety pertaining to the respective bureaus of which it is composed, are scattered throughout the files of the bureaus and the office of the commissioner. Original documents and reports are frequently retained in the files of the bureaus and the copies sent to the office of the commissioner. The time of receiving documents is not stamped or indicated in any way upon records coming to the office of the commissioner for filing or other purposes, nor are documents given a serial number in order to provide an adequate check upon them. Correspondence, reports and other matters coming to the office of the commissioner are filed chronologically and in such a manner as to prevent their being readily accessible for reference purposes. To assemble all documents concerning any one employee, it would be necessary to search the files of the bureau to which he is attached, and the files of the office of the commissioner. There are no indexes to the files nor personal folders.

Register of Official Acts.

All of the official orders of the commissioner are pasted in a bound scrap-book known as the "Register of Official Acts." While in most cases the original document or order is pasted in, yet in many instances they are entered in longhand and signed by the commissioner in the book. There is no index to this book, and all the records contained in it are in the chronological order of their happening. The destruction or removal of this book would result in a complete loss of all the original orders of commissioners for many years. To locate

any specific order or memorandum, it is necessary first to ascertain its date.

The use of this book is not required by law. It is a relic of the time when it constituted practically the only record of the department. Its use should be discontinued. The original orders and other matters which are now pasted in this book should be filed in the regular manner.

Force Register.

A bound book with printed headings and known as the "Force Register" is maintained. In this book are kept the name and rank of each member of the bureaus of police and fire, the date of appointment, the record of delinquencies and the date and reason for his leaving the service.

In the absence of a proper card record of the forces, this book serves a good purpose, except that it does not contain sufficient information concerning members of the police and fire bureaus in that no mention is made of the age at the time of appointment, previous occupation, family relations or the home address of the members.

It is recommended that the commissioner establish a card personnel record consisting of three separate cards having printed headings and stating definite information concerning each man appointed. The headings should include the name and address, age at time of appointment, family relations, previous occupation, previous income, and educational qualifications such as the amount of time spent at schools and the names of the schools.

Upon the back of these cards should be headings under which could be recorded the assignment to duty, transfers, time lost and the reasons, and the monthly efficiency ratings.

One of these cards should be retained in the office of the commissioner and filed alphabetically; the second should be delivered to the executive head of the bureau to which the man is attached, and the third should be carried by the member to his immediate superior officer—in the police, to the captain of his precinct, and in the bureau of fire, to the captain of the fire company.

Upon all three of these cards should be entered the same information in the chronological order of occurrence, and as the men are transferred from place to place or bureau to bureau, their cards should accompany them. Thus, the commissioner, the head of the bureau and the member's immediate superior would have at all times valuable

definite information concerning the member and his progress in the department.

Personnel Folders Should Be Provided.

In order that in the office of the commissioner there shall be available at all times, or in such manner as to be accessible for ready reference, all documents and records concerning the individual employees, there should be maintained a personnel folder for each employee. In these folders should be kept all original documents, reports, letters of complaint, letters of commendation, orders, etc., concerning the individual members. Thus, it would be possible for the commissioner at any time to call for the folder of any member and there find complete information concerning the history of the member while connected with the department. As the members sever their connection with the department, their folders should be removed from the files of the active force and filed in a separate cabinet under proper guide cards classified as to the reason for their leaving the department such as "dismissed," "retired," "resigned."

Record of Claims.

All claims, such as bills for supplies, repairs, and services rendered are recorded in two records, namely, the Register of Claims and the Analysis of Claims. These are bound books with printed headings. These books should be consolidated, and the record and analysis of claims entered in one book.

Record of Pensioners.

An informal book record of pensioners is kept. At the time the record was originally examined, it contained merely the name of the pensioner, the date of entry upon the pension roll and the date of expiration. It was suggested that additional information be entered on this record concerning pensioners as soon as possible, so as to complete the record; this information to include the date of appointment, and the cause of retirement, such as disability or service, and in disability cases the time disabled. This was done before the completion of the survey, but the record as it now stands is still incomplete and not in proper form. It is recommended that the list of pensioners be kept on cards and that complete information concerning the service of the pensioners be entered upon these cards. A duplicate set of cards should be maintained, one in the office of the treasurer, and the other in the office of the commissioner. They should be filed alphabetically.

Definite Procedure Should Be Adopted for Handling Correspondence and Complaints.

It is recommended that the commissioner adopt a definite procedure for the handling of correspondence, complaints, and for the filing of records and documents in his office. For this purpose all mail for the respective bureaus should first reach the office of the commissioner. The secretary to the department should be directed and authorized to receive and distribute the mail. The mail for the department or its bureaus should not be delivered directly to the respective bureaus, but should be kept at the post office until called for by an authorized representative of the department of safety. For this purpose, the department should have a mail bag under lock and key, with a key at the post office and one in the possession of the secretary of the department. At various intervals during the day, the mail should be sent for and brought direct to the desk of the secretary and by him opened, and the time of receipt stamped upon each communication. Mail of a personal character should be delivered intact to the officer addressed. Personal mail addressed to the individual members of the police and fire bureaus should be delivered in the regular way at their stations by the letter carrier.

Method of Handling Complaints.

Complaints received should be serially numbered. The subject matter of the complaint should be entered upon brief sheets, and the name and address of the writer omitted. The brief sheet should receive the same serial number as the original complaint and be forwarded to the head of the respective bureau affected. The original complaint should be filed numerically in a pending file. There should be a separate serial for each of the bureaus. The secretary should endorse upon the brief the action to be taken upon the complaint such as "For Information of the Chief," "For Investigation and Report."

The commissioner should adopt a definite rule as to the length of time the heads of the various bureaus may keep such complaints before reporting upon them, and the secretary should maintain a tickler file for the purpose of keeping a check upon the complaints under investigation.

When the investigation is complete and report received, the complaint should be filed by location and indexed to the name of the writer, the name of the person or premises complained of, and the subject of the complaint.

All Reports Should be Carefully Reviewed.

All reports should be carefully reviewed by the respective heads of the bureaus and their approval indicated by a signature. Upon receipt of the same by the secretary of the department, they should be again carefully reviewed by him and a brief summary of these reports prepared each day and delivered to the commissioner. Immediately after the review of the complaints, a brief synopsis of the report should be forwarded to the complainant. Care should be taken to keep the commissioner of safety advised of all serious complaints, the reports of investigations and all repeated complaints against any one premises.

Separate Files Should be Kept for Each Bureau.

Separate files should be maintained for each of the various bureaus and these files should be divided into three sections as follows; for example, in police:

a—For complaints.

b—Personnel files to include the personnel folders of the members of the bureau.

c—General correspondence and matters pertaining to the administration of the bureau.

Method of Obtaining Papers from the Files.

The rules should require that all papers and documents be forwarded to the filing division as promptly as possible. A form of requisition should be adopted and no papers removed from the files except upon requisition signed by an officer in charge. The requisition should state specifically the papers desired and the name of the person desiring their use.

A receipt should be required for all the papers taken from the files. Large red cards to be known as "out" cards should be provided and when papers are removed from the files, the serial numbers of the documents so removed should be placed on an "out" card and this placed in the files from which the papers have been taken. The requisition should be filed in a pending file and not removed until the papers are returned and placed back in their position in the files. The original requisition should be filed permanently.

The original reports should be forwarded to the central office and not the copies as at present; the copies of the reports should be retained in the files of the bureaus affected.

Record of Time of Employees.

The record of absences of employees of the various bureaus should be kept at the general office of the department. To do this, it will be necessary to establish a time record. It is recommended that a loose-leaf time record with a separate page for each member recording his absences for the entire year, be installed. This should have regular printed headings, and should show the date and cause of each absence. At the end of each year, these sheets should be filed alphabetically. Thus it would be possible at any time thereafter to examine the record of absences of any employee, covering his entire period of service without reference to any other record. This should be posted by the clerk in the office of the commissioner each day from the daily reports of the bureaus.

BUREAU OF POLICE.

Chief the Executive Head.

The bureau of police is organized as a division of the department of public safety, of which the commissioner of safety is the administrative head and the chief of police the executive head. The chief is appointed by the commissioner of safety and serves during good behavior. His salary is \$3,500 a year. The present incumbent has occupied the office for the last seven years and was selected from without the force.

As the executive head of the bureau, the powers of the chief are only such as are delegated to him by the commissioner of public safety, and, although he is the head of the uniformed force and responsible as such for the suppression of crime, the maintenance of good order and the discipline of his force, his powers do not include authority to transfer his subordinates from post to post, platoon to platoon nor precinct to precinct, nor is he empowered to select from among the members of his force men for assignment to detective duty.

According to the present procedure, transfers and assignments to the detective division are sometimes made by the commissioner without consulting the chief, or without a written report from him upon the advisability of such action.

Because of this fact, particularly with regard to the administration of the detective division, the chief, as the executive head, cannot be held strictly responsible for the success of the division in the investigation of crime.

Chief's Control Good.

The present organization of the bureau and the distribution of the force indicate that the chief exercises good control and maintains proper discipline, with the possible exception that the discipline among the patrolmen on post is not quite up to the standard. This, however, does not mean that the patrolmen are lax in the enforcement of their duties, but merely that they are frequently in conversation with citizens, and not active and alert in their patrolling. That they do exercise due precaution in the performance of their duties was observed in almost every instance.

The policemen are courteous in their treatment of citizens and, upon being questioned, displayed an intimate knowledge of the geography of the city and the location of important buildings, institu-

tions and city offices. Although the bureau is without what might be said to be a thoroughly organized record system, the records as inaugurated by the present chief show progressiveness, intimacy with the best practice of police management and a desire to record truthfully the activities of the bureau, its successes and failures.

The attitude of the chief toward the more important policies of police administration is in accord with the most approved conclusions as to the proper management of police departments.

The efficiency of the chief as the executive head would be greatly increased and better results in the investigation of crime would be obtained if the powers of the chief with regard to the assignment of his men and the selection of members for the detective division were broadened.

Chief Should Have Power to Transfer.

In his administration of the bureau the chief necessarily comes into close touch and contact with the majority of the members of the force. He is in a position which enables him to observe the work of the policemen and their officers, and to judge of their efficiency. His control of the men is such as to enable him to recognize the weaknesses of some of the members and the ability of others in certain lines of police work. Therefore, he should be empowered to use his force to the best advantage by transferring from place to place, from post to post, from precinct to precinct or from platoon to platoon, members of his command at his discretion, always after conference with and the approval of the commissioner of safety. No member of the force should ever be transferred, received an assignment or be promoted to the detective division except upon the official recommendation of the chief of the bureau. Having this power would increase the respect of the force for their chief, and inspire them with a feeling of loyalty to him, which under the present system some of the force must necessarily lack.

Discussion as to the selection of detectives will be found in the section of the report under the heading "Detective Division."

The chief's report to the commission should be revised as already discussed in connection with the office of the commissioner of safety. The information which the chief sends to the commissioner concerning the activities of the force is not in such form as to enable administrative control and direction by the commissioner. Each day the chief forwards to the office of the commissioner copies of the six captains' reports to him. As will be seen from the following typical captain's report, this information is so detailed and covers so many trivial matters as to render it almost impossible for the commissioner,

along with his many other duties, either to determine the crime conditions or the efficiency of the bureau in investigation. Much of the information contained in these reports is duplicated by each of the captains, particularly with reference to complaints. The following is a typical report such as is filed each morning by each of the six captains.

Rochester Police
Department.

Captain H. F. McAlester,
Commanding.

DAILY REPORT.
Precinct No. "1."

Day—Wednesday.

Date, April 7, 1915.

Mr. Joseph M. Quigley,
Chief of Police.

Sir :

I have the honor to submit herewith report for period of April 6th to April 7th, 1915.

Officer Aellinger in charge from 8:00 A. M. to 9 A. M.

Captain H. F. McAlester in charge from 9:00 A. M. to 12:00 M.

Officer Sellinger in charge from 12:00 M. to 1:00 P. M.

Officer Heisel in charge from 1:00 to 2:10 P. M.

Captain in charge from 2:10 to 8:00 P. M.

Lieutenant W. J. McDonald in charge from 8:00 P. M. to 12:10 A. M.

Sergeant Barry in charge from 12:10 to 1:10 A. M.

Lieutenant in charge from 1:10 to 5:00 A. M.

Sergeant Kinnear in charge from 5:00 to 8:00 A. M.

Arrests and Disposition of Same in Police Court:

<i>Name.</i>	<i>Crime.</i>	<i>Disposition.</i>	<i>Arrested by</i>
Martin O'Neil	Intoxication	\$5.00 or 30 days	Bartlett
Edward Riley	"	Judg't Susp'd	Fleming
John Rowe	Vagrant	30 day, M. C. P.	R. R. Off Stuar'
Ignazio Naealuso	Assault, 2nd Deg.	Pending	Dolan
Vincent Downing	Forgery, 2d Deg.	Wanted at Niagara Falls, N.Y.	Ragon

Received orders from the Deputy Chief of Police at 11:38 A. M. one officer from the 3rd, 5th and 6th Precinct to report to Sergeant Mulcahy at fire corner of Main and Front Streets.

No. 2 reported at 11:51 A. M., lead traps stolen from vacant house at No. 116 Weld Street. Officers notified.

No. 4 reported at 11:57 A. M., description of Julia Cruax, age 2 1-2 years, missing from No. 130 Woodbury Street. Officers notified.

No. 6 reported at 12:41 P. M., description of medicine case, instrument case and an empty case stolen from auto in rear of the General Hospital. Officers notified.

No. 4 reported at 1:53 P. M., description of man riding a motorcycle that struck a boy and rode away without giving his name. Officers notified.

The operator of the Police telegraph bureau reported at 3:35 P. M., a still alarm of fire at corner of Main and Front Streets. Later Sergeant Mulcahy reported a man thought he had seen smoke coming from the block where fire was in morning.

No. 3 reported at 4:20 P. M., description of bicycle stolen from in front of No. 596 East Avenue. Officers notified.

Mrs. Roby of No. 88 Troup Street, reported at 8:10 P. M., a man stole some meat from her ice box. Referred to Officer Sailer.

No. 3 reported at 9:15 P. M., auto license No. E8195 found on Monroe Avenue and brought to that station. Officers notified.

Officer Wilkin reported at 9:05 P. M., he found front door unlocked of Gustafson's glass store at No. 80 Main Street West; notified owner all O. K.

No. 2 reported at 10:17 P. M., description of lead pipe, traps and gas fixtures stolen from vacant house at 203 Chatham street. Officers notified.

Officer Foster reported at 10:35 P. M., he found front door unlocked of vacant house at No. 78 James Street; notified M. Brennan, the owner, all O. K.

Dr. Bloom of No. 291 Hudson Avenue, reported at 11:25 P. M., while driving his auto west on Main Street at corner State Street about 8:30 P. M., the officer gave the signal to come ahead and then countermanded the signal making him stop. In obeying the officer to stop another ran into the rear of his auto, damaging it.

See Officer Yeckel's report of matter.

Officer Fleming reported at 12:10 A. M., H. J. Simmerlink of No. 17 Oregon Street, reported his auto stolen from in front of the Ellwanger & Barry Building on State Street—later recovered by Officer Chudzinski on Industrial Street and turned over to the owner. Detective Bureau and Precincts notified.

No. 5 reported at 1:00 A. M., description of auto stolen from corner of Emerson and Sherman Street. Later reported recovered.

A citizen reported at 1:56 A. M., an intoxicated man at No. 102 Caledonia Avenue; Officer Woodhead sent and arrested Fred Clark.

H. J. Simmerlink reported at 3:30 A. M., description of articles stolen from his auto that was stolen from State Street and later recovered on Industrial Street.

Precincts notified.

No. 6 reported at 5:15 A. M., description of shoes found and left at that station.

Officers notified.

Officer Pruyn reported at 7:15 A. M., General Hospital Ambulance called to Guilford's drug store at corner of State and Andrew Street, where Andrew Adams of No. 320 Reynolds Street, was taken sick and removed to his home in the ambulance.

Respectfully,

CAPTAIN.

Chief's Monthly Report.

Each month the chief files with the commissioner a report upon a printed form which lists numerically with the arrests classified by crimes and activities, or services rendered, classified by subjects. While this report includes an itemized list of almost every kind of police service, it fails to include a comprehensive list of the crime complaints received and the action taken upon them. With this report the chief forwards a letter of transmittal, one of which follows:

April 25, 1915.

Hon. R. A. Hamilton,
Commissioner of Public Safety,
Rochester, N. Y.
Sir:—

I have the honor to submit for your consideration report of the number of arrests made and services performed other than arrests for the month of March, 1915:

During the month, there were 506 persons arrested for various offences, of which 39 were for felonies (nine of which were for out of town authorities), and 467 for misdemeanors (two of which were for out of town authorities).

The services performed other than arrests number 35,000.

For the corresponding period in 1914, there were 554 persons arrested, of which 53 were for felonies (ten of which were for out of town authorities), and 501 for

misdeemeanors (of which four were for out of town authorities), and the services performed other than arrests number 16,850.

Showing a decrease of 48 in the number of arrests and an increase of 18,150 in the number of services performed other than arrests.

The value of property stolen during the month was \$4,425.63 (which amount includes automobiles to the value of \$1,583.50, which were stolen and recovered), as compared with \$2,271.09 for the same period in 1914, showing an increase in the value of property stolen of \$2,154.54.

The woman police officer in addition to other work, performed services during the month of March, 1915, amounting to 303.

Respectfully submitted,

(Signed)

J. M. Quigley, Chief of Police.

This letter summarizes the information contained on the printed report and gives comparative figures of arrests for the same period during the preceding year. It also includes a comparative statement as to the value of the property stolen and recovered for the same period of the preceding year, but it fails to give a comparative statement as to the complaints received and the results obtained in the investigation of them. Thus, the commissioner, while furnished a vast amount of detailed information, is not given the information in concise form which, after all, is the only list of information upon which he can determine the actual crime conditions and the efficiency of the bureau in the investigation of them, namely, the complaints received classified as to the subjects complained of, compared with different periods of different years.

Chief Should File Daily Report.

Instead of sending daily the detailed routine occurrences, the chief should cause to be prepared a daily return which would be compiled upon one sheet in concise manner and describe the activities of the bureau for the preceding twenty-four hours. This report will be fully described in the section of this report under the heading "Records and Reports."

Each week the chief should file with the commissioner a report summarizing the complaints received, classified by subjects, and the action taken upon them, with a comparison showing the complaints received during the month to date, during the same period for the preceding year and during the same week of the preceding year.

The information contained in this report should be arranged under proper column headings, in such a manner as to show a complete crime condition picture.

Chief Assisted by Deputy.

In his management of the force, the chief is assisted by a deputy chief who is appointed by the commissioner of public safety and serves

during good behavior. The present incumbent has been a member of the uniformed force for thirty-two years, having served in all ranks. As deputy chief, he takes command in the absence of the chief and his routine duties consist of the business management of the bureau and supervision of its records. The chief and his deputy are in agreement upon policies of administration and cooperate with each other in a manner that is conducive to good control and administration.

Inspection District the Administrative Unit.

For purposes of administration the city is divided into two inspection districts with an inspector of police in charge of each. These two inspectors are required to supervise the work of the captains and the members of the uniformed force in their respective districts. They exercise no executive functions with regard to routine management, and their supervision consists mainly of patrolling the districts and conferring with the chief each morning. They keep no records as to the conditions within their districts, nor are they required to review the reports of the captains within their districts. In fact, except as they may visit the filing division and there read reports which have been filed, they do not even see the communications concerning the activities of their subordinates in the district or crime conditions reported upon. These inspectors report to the chief in writing each week, listing the names of the officers met by them on patrol.

Inasmuch as the chief and his deputy are in constant close touch with the captains, and the size of the city and the force are such as to permit of frequent instruction by the chief and his deputy, there is little or no need for the rank of inspector in the bureau of police, and it is recommended that such vacancies as may occur in the future in this rank be left unfilled.

Duties of Inspectors Should be Changed.

Pending vacancies in the rank of inspector, it is recommended that the duties of the inspector be so arranged as to provide for one inspector being on duty between the hours of 8 P. M. and 8 A. M. This is recommended because it is deemed important to have a superior officer in command of the force during the important night hours. At present there is no superior officer on duty above the rank of lieutenant after 6 P. M. All of the captains and inspectors serve in the day time except that, occasionally, the inspectors make a tour of patrol in their districts during the night.

In order that the supervision of the inspectors over their subordinates shall be such as to result in efficiency, they must be kept advised of the activities of their subordinates and the crime conditions

as reported to them. To do this, it is necessary that all reports made by subordinate officers, except reports upon confidential matters directed to the chief personally, should be reviewed by the inspectors and their accuracy vouched for by them before being forwarded to the chief. They should be required to inspect at least once a month all of the station houses, and at least once in three months the uniforms and equipment of all members of the force and to report in writing to the chief upon the conditions observed.

The inspector on the day tour should be placed in charge of the training school for police service, the establishment of which is recommended elsewhere in this report.

Captains in Command of Precincts.

The city is divided into six precincts each commanded by a captain of police. The captains are selected as the result of competitive promotion civil service examination, to serve during good behavior. They are held responsible for the conditions found within their precincts. Their powers with relation to the assignment of members of their commands are such only as are delegated to them by the commissioner of public safety, and do not include the transfer of patrolmen from post to post.

If the captain is to be held strictly to account for the suppression of crime and the reporting upon crime conditions, he must have an intimate knowledge of every part of his precinct and of the members of his command. If he is capable of understanding the police conditions within his precinct and the efficiency of his subordinates, he should have the power to distribute them by assignment within his precinct in such manner as to produce the best results, and to make such changes from time to time as the existing conditions may warrant, but in all cases before making such changes, he should confer with the chief of police and secure his advice and approval.

Captains Perform Day Duty.

The captains are on duty for the most part during the day time, and are relieved each evening by lieutenants.

It is essential that the captains observe the precinct conditions during the night, and for this purpose each captain should be required by the rules to patrol his precinct at least one night a week. It would be conducive to better police service if the captains were required to spend considerable of their time within their precincts during the night hours.

Lieutenants as Aids to Captains.

There are six lieutenants, one assigned as an aid to each of the six captains. The lieutenants are in command of the precincts during the night and patrol the precincts at various intervals during their tour of duty. This is in accordance with good practice and should be continued.

Patrol Supervision by Sergeants.

There are twenty sergeants of police whose duties are to supervise the patrol force. Three of these sergeants are assigned to each of these precincts, one sergeant is assigned in charge of the traffic division and another in charge of the patrol stable. The latter is given this detail because of his age, having been in the service for over fifty years. The sergeants are required to observe patrolmen on their posts, to instruct and advise them, and to aid them in whatever way possible in the performance of their duties. They are also required to observe conditions and to report upon them. They enter in their memorandum books the time and place of meeting of each member of their command while on patrol.

The excellent condition of the police stations and the general tidiness of the members of the force, as well as the manner in which the patrolmen turn out at roll calls, indicate that good discipline is maintained in the precinct stations, but the number of policemen observed in conversation with citizens and other policemen on their posts, and the scarcity of complaints against policemen, which are tried by the commissioner, indicate that the patrol sergeants do not enforce discipline on patrol.

During the year 1914 there were but six complaints against policemen, of which two were not sustained. It is recommended that the sergeants be instructed to maintain better discipline of the patrol posts and that the patrolmen be restricted, within reason, from holding conversation with citizens or other members of the force.

Method of Training Policemen Inefficient.

The average number of policemen appointed each year is forty. They are selected from a civil service eligible list. The bureau does not maintain any training school for police service, nor is any instructor employed at present. Immediately upon appointment, the patrolman assumes his duties, his only instructions being advice from the chief and those contained in the book of rules. Provision is made for instruction in target practice and military drill under the direction of a military officer, who is paid \$300 per year for his services. The tar-

get practice and the drills are given during the six months of the year, while the policemen are given physical training by a physical instructor during the other six months.

As to the training of the policemen for their duties as police officers, the only provision made is through a series of lessons issued in the form of daily printed bulletins to the force. These bulletins of instruction have recently been discontinued. Provision is made in the budget annually for the salary at \$300 per year of an instructor, but, for some reason, within the past few years no instructor has been employed. Therefore, it may be said that the training furnished policemen for their duties is wholly inadequate and does not serve to prepare them for their work. With regard to the detectives, whose functions are of a scientific character, no provision is made at all for their training.

Training School for Police Service Should be Established.

Under the present plan the bureau depends upon each policeman learning from "experience," but disregards the fact that his experience must necessarily be secured at the cost of police efficiency, which means increased crime and police failures. Therefore, if the police force of Rochester is to be placed upon the highest standard of efficiency, its members must be given ample opportunity, through regularly organized courses of instruction, to learn the police procedure and the science of criminal identification. This can only be done by establishing a training school for police service. There is ample room for such a school in any one of five police precincts which have splendidly equipped, unused rooms in the upper part of the buildings. The school should be under the charge of an experienced police officer. One of the two inspectors should be used to organize the school and supervise the work. Proper records should be maintained of punctuality, appearance, attention, discipline, efficiency in report writing, proficiency in the use of grammatical English in class, and in answering oral questions in class, ratings in written tests of police duties, laws and ordinances, proficiency in the humane handling of prisoners and proficiency in pistol practice. This school should be used to determine the fitness of recruits for police duty as well as for instruction of the entire force. The course should include instruction for a period of from thirty to ninety days in the following:

Field work.

First aid to the injured.

Report writing.

Ethics and conduct.

Practical civics.

Sharpening powers of observation.
The powers and duties of a policeman.
Rules and regulations of the bureau.
General laws of the state, and the ordinances of the city.
Pistol practice.
Humane handling of prisoners.

Probationary Patrolmen Should be Assigned to Duty with Experienced Men.

During the course of study, the recruit should be given considerable field experience by assignment to duty in different sections of the city with experienced police officers of good record, thus subjecting him to as large a variety of police experience as possible during the probationary period. He should be required to make a report in writing upon his experience; upon such reports he should receive a rating. Classes should be arranged for the older members of the force and all members should be required to take a course in criminal identification.

Lectures by Officials..

The commissioner of public safety should secure the cooperation of the other city departments in the conduct of the school, and lectures should be given by the city officials with regard to the relation of the police to their respective departments. Lectures on first aid to the injured should be given by the police surgeon. The district attorney should be requested to assign an assistant to lecture upon laws and ordinances, evidence and court procedure; the Bertillon operator should be required to prepare a course of lectures on criminal identification and of practical demonstrations in the making of Bertillon measurements, the study of physical characteristics of criminals and the taking and classifying of fingerprints. Teaching the humane handling of prisoners should be taught by the physical instructor. The health officer should instruct men as to the sanitary regulations and the part the policemen should play in their enforcement. The commissioner of public works should lecture upon the relation of the police department to the various bureaus of his department and instruct the policemen as to the methods of reporting upon matters affecting his department. Officials of police departments in other large cities should be invited to address the men from time to time upon subjects which it has been established they have mastered.

The inspector designated to organize the school should be permitted to visit New York's or Philadelphia's police department and

there to observe the plan of organization, the method of procedure, and the records in use in their schools for recruits.

Hours at Work for Patrolmen.

The force is organized into three squads and the members of each platoon patrol continuously for eight hours, in accordance with the state laws.

The platoons do not alternate in regular cycles, thus the force is practically divided into night and day service and the members are required to serve on the same tour practically continuously.

The newly appointed members are assigned to duty on the third platoon, which is on duty from 8 P. M. to 4 A. M. Thus, it will be seen that the new men with the least experience are assigned to duty during the most important hours, hours in which criminal activities are greatest. They remain upon this platoon until vacancies occur in either the first or the second platoon as the result of deaths, resignations or retirements, and are then transferred by the commissioner of safety, who usually makes these transfers upon the basis of seniority. This system does not provide the policemen with opportunity for general police service.

No Reserve Provided.

This platoon system provides for no reserve force, although a reserve force was formerly maintained and all of the station houses are equipped with dormitories and beds capable of housing reserves.

In the event of sudden need for the immediate gathering together of a number of policemen, it is now necessary to reach the patrolmen on their respective posts through the use of flashlights and the telephone boxes. While it is true that with the aid of the flashlights it is possible to reach the patrolmen with a reasonable amount of alertness, it is not possible to assemble the patrolmen at any one point with the speed necessary to meet possible emergencies.

It is absolutely essential to an efficient management of the bureau of police that there be available a number of policemen for emergency service at all hours of the day and night. Therefore, it is recommended that a platoon system be established which will provide for an adequate reserve force permitting of the men alternating in such a manner as to give each man his share of duty on each of the tours. It is not necessary that the reserve shall be a whole platoon, but merely that in each of the station houses, and especially during the night, there shall be available not less than two policemen, and in the central station, not less than three. This reserve should be provided for

even without the establishment of a new platoon system, by having the policemen take turns in sleeping at the station houses.

Cooperation With Other City Departments.

The patrolmen should be required to report over the telephone matters observed by them on their posts which affect other city departments, such as defective sidewalks, broken curbs, holes in the pavement, obstructions, etc. In this respect the records do not show that the policemen are over diligent in the matter of reporting, and the records of these reports which are made are not maintained in such a manner as to determine the extent of the efficiency of the patrolmen as a reporting agency for other city departments.

Patrolmen Should Report Conditions on Their Posts.

The patrolman is required to walk over his beat or post continuously for eight hours. It is the opinion of police experts that much of the trouble into which policemen get in large cities is due to leisure time while on patrol. Therefore, the patrolmen should be made to understand that it is not sufficient that they walk back and forth on their posts and make arrests for violations of the law, but they must do more, they must cooperate with all of the city departments by observing and reporting upon conditions upon their posts which require the attention of other city departments. If the patrolmen were diligent in the matter of observing, there would be little or no need for many inspectors representing the bureau of health and the department of public works, whose duties are little short of a duplication of the patrolmen's duties on his post.

No one is better qualified to "watch out" for irregularities with relation to outward conditions than is the policeman who, if he is diligent in the performance of his duties, must become thoroughly familiar with all conditions upon the post he covers day in and day out, eight hours at a time. Yet, while in almost all of the cities of Europe the policeman performs inspectional service for most of the departments, such as health, weights and measures, fire and buildings, but few cities in the United States use their policemen intelligently in this respect. The ambition of every police chief should be to create a friendly feeling between the citizens and the policemen, and a proper understanding by the public of the functions of the police. To do this, it is necessary that the policeman be properly trained to observe and report upon conditions, that he be encouraged by proper reward, through efficiency ratings, for intelligent reporting; that he be made to understand that efficiency in police work does not mean merely the making of many arrests, and that he be thrown into closer contact with

the public upon his post in such a way as to establish a feeling of respect and friendliness rather than hostility.

To encourage policemen to report properly conditions observed by them and to bring about a proper system of reporting, is of little value to the city or to the policemen unless the reports are properly reviewed and commented upon. The principal need for successful administration of municipal government is a scientific collection of information as to conditions in all branches of government, the review of that information and the cooperation by all city departments to bring about action which will remedy the conditions reported upon. A policeman who reports a broken sidewalk three or four different times, to find, ultimately, that no action has been taken to remedy the condition, will soon lose his enthusiasm and will neglect to report in the future. The policeman who reports a violation of an ordinance only to find that the branch of the city government whose function it is to prosecute neglects to act, will soon lose his faith in this other branch of the government. Thus, in order to make policemen efficient and useful "eyes and ears of the city government," it is necessary that the commissioner of public safety impress upon all of the other commissioners the need of close cooperation between all the city departments.

In this respect in most of the city departments in Rochester there is a spirit of cooperation, and the commissioner of public works is prepared to cooperate with the chief of police to the extent of installing any kind of a practical system of reporting and rewarding that may be devised.

Two things are necessary to accomplish a proper working of conditions. First, a system of efficiency records must be installed, and due consideration be given in efficiency ratings not only to the number of reports made by patrolmen and other officers, but to the intelligence displayed in the reports made. As a policeman is rewarded for the making of these reports, so on the other hand, he should receive demerits upon discovery of his failure to report. Second, a new method of reporting must be devised and installed. This method must be as simple as possible. Thus, it is recommended that the chief provide for the use of the policemen separate printed forms upon which to report the conditions observed. These should include separate forms upon which to report—

Violations of ordinances which are prosecuted civilly.

Conditions of pavements and sidewalks of which the department of public works is to be notified.

Pedigree of prisoners arrested.

Court action, the actual time consumed by the policeman in connection with the case, the amount of the policeman's personal time off duty that was devoted to the case.

Unusual occurrences, such as unlocked doors, etc.

Highway accidents.

Street light outages.

These reports should be delivered by the policemen to the desk officer and be recorded upon special forms to be used in transmitting the information to the departments affected.

In order to avoid unnecessary duplication of reports, the procedure at the station house should be as follows. Separate days in the week should be fixed for special observance and reporting upon definite conditions, for example—

MONDAYS.

The patrol force would be instructed to observe and report upon dangerous holes and depressions in the streets.

TUESDAYS.

Encumbrances such as barber poles, show cases, obstructions on sidewalks, dangerous cellar gratings, beer kegs in front of saloons, etc.

WEDNESDAYS.

Electric signs extending beyond the legal limit, condition of street lamps as to broken globes, etc.

THURSDAYS.

Bootblack stands and other stands which may be required to have licenses.

FRIDAYS.

Building material on streets, contractors occupying more space than called for in permit.

SATURDAYS.

Peddlers occupying space in front of stores, etc.

Of course, the patrol force should be instructed to report on all conditions observed at any other time, and especially any changes in these conditions making them more dangerous, but these days should be designated as days upon which the force would pay particular attention to the conditions cited.

Upon receipt of the patrolman's reports, the desk officer should prepare a list of the conditions recorded under the post number upon which they are alleged to exist. This list should be posted in the muster room of the station and the patrolman required to copy from it such matters as are recorded as affecting his post. If a citizen reports a condition the list should include notice just the same as if it had been reported by a patrolman.

The procedure should require that no reports be made of these conditions until the following week, except when the conditions are removed or become more serious.

The original reports of the patrolman, after they have been copied into the records, should then be filed in the envelopes of the patrolmen making them. For this purpose there should be kept at each precinct station a large envelope for each member of the command, bearing his name and shield number. In this envelope should be kept all of the individual policeman's reports. At the end of each month, the captain, in rating the efficiency of the men, should examine the records in these envelopes and give credit for the intelligence displayed in the making of the reports.

Form of Memorandum Book Should be Changed.

To install this system, it would be necessary to abandon the use of the present memorandum books and to substitute in their places loose-leaf binders in which should be carried several of each of the forms and also several blank sheets.

Bulletin to the Force.

The communications to the force, such as summons, and alarms for missing and wanted persons, are prepared in the form of a printed daily bulletin, and a copy of this bulletin is furnished each member. This is a commendable practice and should be continued, but the form of the bulletin should be changed and much of the material included in it should be omitted. Only alarms for persons wanted in important cases should be included. It should not be a complete list of every person wanted regardless of how trivial the charge. The bulletin should be reduced in size so that it could be bound in the memorandum book and in this way continuously carried by the patrolman.

Uniforms and Equipment.

The policemen are neatly uniformed and their general appearance is good. The city provides all of the equipment carried by the policemen, but they are required to pay for their own uniforms. All of the members of the force except the officers and the traffic men have been

wearing helmets, blue in the winter, and gray in the summer. This form of headgear has long since been condemned and in most cities abandoned. During the course of the survey, a special report was made upon the advisability of abandoning the use of the helmets and the recommendation made that military caps be substituted. This preliminary memorandum was forwarded to the mayor and the caps ordered in place of the helmets.

There are many styles of uniform which have been introduced for use of policemen since the adoption of the old metropolitan style now worn, and it is recommended that when the uniforms are changed the more modern type of uniform be selected. The military coat collar is recommended in place of the rolled collar.

The appearance of the policemen would be improved if the chief would issue an order requiring a uniform collar and necktie to be worn.

Method of Purchasing Uniforms.

The minimum salary paid patrolmen is \$780, and the maximum \$1,080. Out of his first year's salary, the patrolman is required to expend approximately \$112.50 for his uniform. The following table shows the approximate cost of the various parts of the uniforms:

Two pairs of trousers, \$8.50 each cash, or \$9.00 on time.	\$ 18.00
Blouse coat	18.00
Overcoat \$32.00 cash, or \$34.00 on time.....	34.00
Two helmets, \$2.25 each.....	4.50
Rubber coat	5.00
Tan gloves, per pair	1.00
Dress coat, \$30.00 cash, or \$32.00 on time.....	32.00
	\$112.50

Thus his salary is reduced from \$780 to \$667.50, and his uniform expenses continued throughout his service. Because of the low salary paid patrolmen, it is recommended that the city supply them with their uniforms as well as their equipment. The uniforms should be purchased and manufactured upon contract. If, however, the city fails to purchase the uniforms, it is recommended that it supervise the manufacture and purchase of them. The plan successfully tried in other cities is hereby recommended for the consideration of the commissioner:

First, the commissioner should decide the number of uniforms the patrolman should wear in a year. Good practice would require a summer and a winter uniform each year and a middle-weight spring dress coat every two years. Having decided upon the number, he should se-

cure estimates as to the cost of supplying the same. Definite dates should be set for the supply of the summer and winter uniforms, and each year the force be required to purchase them at such time.

To pay for the same, the total cost of the uniforms per man should be divided by twenty-four, and one-twenty-fourth of the cost deducted from each man's pay at each pay day. For example, if the total cost were \$50.00 per year, \$2.50 would be taken from the day check of the patrolman.

The purchase by policemen of uniforms has been found to work a hardship upon them in most cities in this country. Most European and Canadian cities supply the patrol force with their uniforms and equipment without cost. The patrolmen of London and the cities of Canada are perhaps the best clothed police officers in the world.

One of the reasons that the purchasing of uniforms becomes a financial hardship to the patrolmen is the constant change of style by new commissioners.

The advantages of the system suggested above are

That it would be more economical to have all of the uniforms made by one company and under contract.

That, by requiring the policemen to purchase a new summer and winter uniform each year, a cheaper, and yet serviceable, cloth could be used in the manufacture, thus reducing the cost.

That all of the policemen would be wearing uniforms of the same age.

That it would provide ample opportunity, without inflicting a hardship on the men, for commissioners to change the style of uniform from time to time.

That it would provide an easy method of payment by the policemen which would become so automatic as to result in preventing policemen from going into debt and becoming victims of loan sharks.

That it would provide for a uniformity of grade, color and quality of the cloth and cut of uniform.

Policemen Should Carry Revolvers in Their Blouses.

The rules require that each policeman shall carry a revolver when on duty. The revolvers are supplied by the city. The present practice of carrying the revolver in the right hip pocket should be abandoned, and the regulations should require that the revolver be carried in a holster strapped across the shoulder under the blouse, and at the left side, so as to be available in emergencies.

Policewoman.

The force includes one policewoman, the salary being \$90.00 per month. She reports directly to the chief, and performs such services as may be assigned to her by the chief. Her routine work consists of visiting moving pictures shows, department stores, dance halls, and back rooms of saloons where liquor is sold to women. In addition to these functions, she acts as probation officer to the police bureau in cases where the chief of the bureau places women or girls on what is termed voluntary probation. In cases where young girls or even women are taken into custody, for acts not amounting to crimes, but which indicate a delinquency, or a tendency to "go wrong," the chief does not cause the girls to be arraigned in court but detains them in the custody of his matron, and places them under the care, on what is called voluntary probation, of the policewoman. She requires them to report at her office one night a week. She visits their homes, sets up a contact with the parents or guardians, endeavors to secure employment for them, interviews their employers as to their conduct, and becomes more or less of a guardian of those placed on probation.

A very commendable procedure is the cooperation of the owners and managers of the department stores with the policewoman. These managers observe their girls in the stores in such a way as to record habits or acts which seem to indicate that the employee is morally weak. In these cases a contact is set up between the employees and the policewoman. Several instances appear upon the records wherein good results were obtained by the procedure.

Theatres are required to submit their posters within a week in advance of the production of their performances, and before such posters are distributed in the city. The policewoman and the license bureau clerk examine the same, and approve or disapprove. Owners of moving picture theatres cooperate with the policewoman, to the extent that any picture which has received any publicity in any other city, because of its immorality, will not be contracted for until it has been reviewed by the policewoman, and, if rejected by her, it will not be shown in the city. In a number of instances, pictures which have received considerable publicity in other cities were not permitted in Rochester, and in none of these cases was any court proceeding necessary, because of the cooperation between managers and the policewoman.

Records Kept by Policewoman.

The records maintained by the policewoman are as follows:

A desk blotter which is a bound book without printed headings,

in which she records chronologically and briefly, the work performed during each day.

An index of probation cases, which consists of an alphabetical list of probationers, with the number of the page in the desk blotters upon which there appears an entry concerning them.

Monthly reports—Each month the policewoman makes a report to the chief and the commissioner of safety, in which she merely lists her activities as follows:

Number of moving picture shows visited.

Number of dance halls visited.

Number of persons obtaining information.

Number of visits to homes.

Etc., etc.

The monthly report does not include any information which would be of value to the administrative heads in determining the results obtained, and no records are kept which would serve as a basis for a tabulation or analysis of results. It is, therefore, recommended that special case records be maintained, and that specially printed cards be provided, which cards will have printed headings calling for adequate history in each case.

The effort of the officer should be to secure as much information as possible which would serve as a basis for the analysis of the causes of the condition of the persons paroled in her custody.

The visits of the policewoman to the homes or places of business of the probationers and the visits of the probationers to her should be recorded upon these cards in such a manner as to show at all times the progress and development of a case. It is not sufficient to state that the probationer "called at 8 P. M. and was interviewed" nor that the "home of the probationer was visited on January 12th at 2 P. M. "

The policewoman, by virtue of the opportunity of coming into close contact with the girls and women placed in her charge, is enabled to secure an abundance of information concerning the causes of criminal tendencies among women, and advantage should be taken of this opportunity and as many data as possible collected and recorded. The desk blotter maintained by the policewoman should be continued.

Mounted Policemen.

These are twelve mounted policemen, three of whom patrol in the congested districts as traffic policemen: the remainder are on regular patrol in other sections of the city. They are permitted to select the stables at which their horses shall be boarded. All the mounted policemen observed showed ability to ride and a competent knowledge of horsemanship.

Mounted Policemen Unnecessary.

The mounted police have a certain usefulness as a cavalry troop available for use in case of riot or large assemblages of people upon the streets. In this case one mounted policeman is unquestionably of more value than a great many unmounted policemen. Outside of this work, the mounted policemen are of little value. They can be put to two purposes, namely regular traffic and suburban patrol. In Rochester the traffic congestion is primarily due to the layout of the street car lines. The mounted men are of no service in regulating the traffic as affected by the street cars. The usefulness of the mounted men in traffic ceases when the drivers of vehicles become familiar with the traffic regulations and the operations of the foot traffic policemen. Therefore, the service of the mounted men on traffic duty are of no value.

The protection of suburban districts, which are almost always residential, merely involves the prevention of burglary. Crime in the residential section is not native, but takes the form of invasion. As a prevention against the commission of burglary, the mounted policeman is useless. He must keep his horse with him, which prevents his doing effective patrol, and, when riding, the patter of the horse's hoofs can be heard so far as to serve as a warning of his approach. While riding his mount, his observations are limited to the roadway directly in front of him. Since his body is so high in the air as to be on a level with the lower branches of the trees, he is unable to see the porches of the houses or to observe persons walking on the sidewalk close to the stoop line. He is unable to try doors or perform any of the functions necessary to efficient patrol. In suburban patrol, the mounted policeman has but one real use, and that is to watch out for night fires. Of course, his presence in the residential section has a psychological effect on the residents in that they feel they have police protection, while in fact they have the very weakest kind of police service.

As a matter of fact, protection against burglary must come through the detective force, whose efficient protective work will prevent burglars from visiting the city or beginning their operations. The burglar operates without fear of interruption or capture by the uniformed policemen, although occasionally the uniformed police do succeed in "scaring off" or capturing a burglar.

In providing for patrol, it must always be remembered that efficient patrol means a close scrutinizing of all conditions existing upon a patrol post, and reporting upon them with a view to removing bad conditions, and becoming acquainted with residents on the post so as to be able to discover the criminal element. To do this, the patrolman

must come into close contact with the people and must patrol leisurely. It is therefore recommended that the mounted patrol be abandoned and the patrolmen remanded to foot patrol. It would be wise, however, for the department to retain some of the horses for use upon certain occasions such as large parades or large public assemblages.

Patrolmen Assigned to Court Should Be Returned to Active Duty.

There are assigned to the police court three members of the police bureau, one as interpreter, one as a guard to the justice, and another as attendant in the court. The police court is a separate branch of the government and all attendants necessary should be selected from the civil service list, appointed by the court and their salaries paid from the appropriation for the maintenance and operation of the court. There is no logical reason for assigning a policeman to guard the justice. These three policemen should be returned to active duty.

DETECTIVE DIVISION.

The detective division is organized as a branch of the bureau of police, with a captain of detectives in charge. The staff consists of—

- 1 captain of detectives.
- 12 detectives (1 vacancy at present).
- 3 detective sergeants.
- 7 patrolmen detailed as acting detectives.
- 3 patrolmen detailed to clerical duty.

One of the detectives is detailed to the office of the district attorney and operates independently of the head of the bureau.

Method of Selection.

The detectives are appointed by the commissioner of safety from among the members of the uniformed force. Their assignment to the detective division carries with it an increase of salary amounting to \$420 a year, the salary for detectives being \$1,500. They may be returned to patrol duty by the commissioner at will: in such case they receive the same salary as that of the grade of patrolman.

The selection of detectives is not dependent upon the recommendation either of the captain of detectives or the chief of police, since in most cases they are appointed without either the advice or counsel of the chief.

Detectives Receive No Special Training.

There is no branch of police work in which scientific training is more essential than that of detective work. It is as important for a

detective to know what evidence to secure, how to prepare his cases for court, how to secure a confession in such a manner as to make it admissible as evidence in court, how to preserve the evidence, how to make memoranda at the time of arrest which will be admissible as evidence in court, and how to examine prisoners, as it is for him to know how to apprehend a criminal. Nevertheless, the members of the detective division have not received any special training for their work.

A tabulation of the complaints and the results obtained during the year 1914 shows clearly the need for the training of detectives. This table shows, among other things, that of 663 burglaries reported during the year, there were arrests in but 116 cases, or 17 per cent of the total cases; while in 523 cases or 79 per cent. of the total, there were no results obtained. The total loss as a result of burglaries was reported in the records as \$23,161.56 of which but \$3,359.50 or 15 per cent., was recovered. It shows that, during, the year, there were 789 cases of larceny reported, of which but sixty-nine cases, or 9 per cent. of the total, resulted in arrests, while in 633 cases, or 80 per cent., no results were obtained. The total loss as a result of these larcenies, as shown by the records, was \$27,718.72 of which \$7,106.82 or 25 per cent. was recovered. During the year, there were forty-six cases of highway robbery or attempted highway robbery, of which but five, or 11 per cent., resulted in arrests, while in forty-one cases, or 89 per cent., no results were obtained. The value of the property stolen, as shown by the records, does not include a complete valuation, because in many cases, while the records show a loss of property stolen, they do not show the value. This tabulation of all the complaints and the results obtained shows that in a total of 1,878 complaints received during the year, there were arrests in 253 cases, or 13 per cent. of the total, while in 1,514 or 81 per cent. of the total cases, no results were obtained, and it shows that of a total of \$52,043.90 reported stolen, but \$10,616.32 or 20 per cent., was recovered. Both the percentage of arrests and the percentage of recoveries of stolen property are so low as to point clearly to the need, first, of a better method of selecting the detectives and, second, of a proper course of training and instruction for them after selection. (For table see Page 138.)

New Method Recommended for Selecting Detectives.

Therefore, it is recommended that the selection of members of the detective division be made only upon recommendation of the chief of police and that his recommendation be made only after the policemen have been given an opportunity to prove their fitness by service in the division as acting detectives.

The plain-clothes men attached to the precincts as aids to the captains should be assigned to the detective division as acting detectives, and their work within the precincts should be under the supervision and scrutiny of the captain of detectives. Their services as acting detectives should be an apprenticeship for detective duty, and the cases handled by them should be regarded as detective cases and included in the records of the detective division. From these acting detectives, rated upon their efficiency as shown by their record of accomplishments, should be selected the permanent members of the detective division. Continued failure on the part of detectives to obtain results in the investigation of crime complaints should result in the remanding to patrol duty of those responsible, and this should be done by the commissioner upon the recommendation of the chief.

SUBJECT OF COMPLAINT	Total Number of Cases	Cases No Result		Cases Recovery but No Arrest		Cases Resulting in Arrest		Amount Stolen	Amount Recovered	Per Cent Recov- ered
		Number	%	Number	%	Number	%			
<i>Crimes of Violence:</i>										
Homicide—Murder.	3	..	77	..	..	3	100	..	..	..
Assault—Simple.	47	36	56	..	..	11	23	..	..	..
Felonious.	16	9	1	..	..	7	44	..	..	..
Threatened	2	1	50	..	..	1	50	..	..	..
Total assault.	65	46	70	..	..	19	30	..	..	..
Extortion	1	1	100	..	..	..	..	..	..	..
Arson	8	7	88	..	..	1	12	..	..	..
Arson, attempted.	3	2	67	..	..	1	33	..	..	..
Shooting.	21	13	62	..	..	8	38	..	..	..
Bomb Throwing.	2	2	100	..	..	..	..	..	..	..
<i>Crimes of Theft:</i>										
Burglary—Residence.	311	238	77	19	6	54	17	\$12,954.19	\$2,860.35	22
Business.	352	285	81	5	1	62	18	10,207.37	499.15	5
Total burglary.	663	523	79	24	4	116	17	23,161.56	3,359.50	15
Larceny—Pickpocket.	19	18	95	..	..	1	5	1,296.25	..	..
Other than pickpocket.	770	615	80	87	11	68	9	26,422.47	7,106.82	27
Total larceny.	789	633	80	87	11	69	9	27,718.72	7,106.82	26
Robbery—Highway	20	18	90	..	..	2	10	416.05	..	000
Attempted highway.	7	7	100	..	..	..	..	..	..	000
Accompanied by assault.	19	16	84	..	..	3	16	201.60	..	000
Total robbery.	46	41	89	..	..	5	11	617.65	..	000
Stolen property—Selling.	1	1	100	..	..	..	..	..	..	..
False pretense—Obtain'g money or property	50	44	88	..	..	6	12	..	..	..
Forgery.	8	7	88	..	..	1	12	..	..	..
Fraud.	3	3	100	..	..	..	..	..	..	..
Blackmail.	1	1	100	..	..	..	..	..	..	..
Bad checks.	58	49	84	..	..	9	16	..	..	..
“Alley workers’.”	5	3	60	..	..	2	40	326.00	150.00	46
“Handkerchief game’.”	4	4	100	..	..	..	..	220.00	..	000
Auto theft.	3	3	100	..	..	..	..	..	..	..

	No.	Value	%	Total
Complaints against Chastity:				
Prostitution—Mann act (white slave law), violations of.....	2	100	..	2
Indecent exposure.....	2	100	..	2
Annoyance.....	4	75	..	3
Assault and rape.....	3	67	..	2
Suspected paternity.....	1	100	..	1
Complaints of Gambling:				
Pool selling.....	1	100	..	1
Complaints of Drug Habit:				
Use of.....	1	100	..	1
Possession of.....	1	100	..	1
Sale of.....	4	75	..	3
Complaints Involving Regulatory Statutes:				
Firearms—Carrying concealed.....	1	100	..	1
Department of Justice—Investigation... ..	1	..	..	..
Complaints Concerning Violations of Regulative Ordinances:				
Health—Miscellaneous.....	1	100	..	1
Fire protection and prevention: Sending of false alarm.....	3	100	..	3
Miscellaneous.....	7	71	..	5
Destruction of Property:				
Malicious—Interfering with private prop'ty	7	100	..	7
Dynamiting.....	2	50	..	1
Malicious mischief.....	1	100	..	1
Total malicious.....	10	90	..	9
Miscellaneous Complaints:				
Abortion.....	2	100	..	2
Fugitive.....	13	77	..	10
Suspicious persons.....	41	95	..	39
Disorderly persons.....	2	100	..	2
Counterfeiting.....	11	91	..	10
Anonymous or threatening letters.....	7	100	..	7
Special investigations.....	20	100	..	20
Suicides.....	5	100	..	5
Total.....	1,878	1,514	111	81
Missing Persons.....	189	140	74	..
Missing or Lost Objects.....	340	293	86	..

Provision Should be Made at Once for a Course of Instruction in Detective Work.

Provision should be made at once for a course of instruction in detective work, in criminal identification and in legal procedure which accompanies detective work. This course should not be confined to the detectives and those anticipating performing detective services, but should be open to the entire force and all policemen required to attend. The mistake is too frequently made, in large cities, of disregarding the importance of the uniformed patrolmen in connection with the apprehension of criminals, the belief being that such work is primarily the function of the detectives; hence the patrolman's education in criminology and criminal identification is neglected to such an extent that the large cities lose the detective service of their uniformed men.

The blunder of the uniformed policeman who first arrives at the scene of a murder or burglary has often resulted in the failure either to catch the criminal or to make a conviction possible after arrest.

Patrolmen as well as detectives should thoroughly understand the procedure necessary in the investigation of important felonies. While it is not possible to conduct a civil service test which will truly reveal the detective ability of policemen, yet it is possible to examine the policemen after they have received a thorough course of instruction in the fundamental theories of criminology and criminal law in such a manner as to reveal at least the degree of intelligent understanding of the subject by the policemen. Therefore, in the selection of detectives for Rochester, it would be wise to conduct such an examination and not to "tie the hands" of the chief by any rule compelling the appointment in numerical order from the list, but merely to use the results of the examination as a guide in the selection of the men.

The detectives should be made to understand that their length of service in the bureau at the increased salary is wholly dependent upon the intelligence displayed by them in the investigation of their cases and upon the results obtained. It would be difficult to read and analyze the figures shown in the above table without realizing the need for giving the personnel of the detective division closer attention, and, perhaps, of making changes in the personnel with a view to bringing into the division, from the uniformed force, men who could obtain better results than are obtained at present.

Percentage of Serious Crimes Small.

The number of serious crimes committed is comparatively small and the character of them such as to indicate that the city is not infested by vicious criminals. The fact that the percentage of crimes

committed is low may be attributed to the efficiency of the patrol force and the efficiency of the patrol force emphasizes the failure of the detective division.

Assignment of Detectives.

The city is divided into four detective districts, to each of which are assigned two detectives. These detectives are supposed to be responsible for the conditions within their districts and all cases occurring within the district are assigned to them. This is done, according to the captain, to prevent the charge of favoritism in the assignment of cases. Inasmuch as the plainclothes men assigned to precincts are not regarded as detectives and have no responsibility for the detective work within the precincts, the present plan, of dividing the city into four districts and assigning two detectives in charge of each, does not provide for specialization in work, nor does it provide a unit small enough for the detectives to accomplish the best results by virtue of their familiarity with the conditions. It is, therefore, recommended that the precinct be the police unit throughout, not only for the uniformed force, but for the detective work as well. With the plainclothes men assigned as acting detectives and required to perform detective services, and the assignment to each precinct of a member of the detective division, the city would be better protected, and the efficiency of the detectives increased.

This plan would mean using six detectives for assignment to precincts and the balance of the staff for specialized work. The procedure would then be for the detectives within the precincts to handle all cases except those requiring the attention of specialized men.

Under the present system, one detective is detailed to the investigation of pawn-shops and second-hand dealers, and one detailed to the New York Central Railroad depot, while two specialize in crime committed by Italians.

Each detective is required to carry with him while on duty a memorandum book in which he keeps the pedigree and record of local criminals; photographs of the criminals are also kept in this book.

Morning Line-Up.

Each morning prisoners who are regarded as important or of a type which should be known to all the policemen are lined up and the detective and policemen attached to the first precinct are required to attend. The history and pedigree of the criminals are read and their characteristics, both as to features, and habits, are told those present.

Work of Detectives Supervised by Sergeants.

The work of the detectives is supervised by three sergeants of detectives, who receive \$1,650 a year.

Recording Procedure Defective.

All complaints received in the city, regardless of the station at which received, and regardless of whether they are cases requiring detective attention, are communicated to the detective division and there recorded in the complaint book. Such cases as require the attention of the detectives are immediately referred to the detectives in the district in which the crime is alleged to have occurred. This is done by telephone, but later in the day, or the next morning, the detectives receive a written assignment. Each detective is required to make a written report upon each case assigned to him. This report is delivered to a sergeant of detectives who reviews the same. The sergeant keeps a file of pending cases and the reports of action taken upon them. The detective's report is attached to the assignment blank and these are filed chronologically. For cases which are regarded as important, in which the investigation covers an extended period in which there is an accumulation of documents, letters, etc., case folders are provided, and cases are given a serial number. However, there is no card index maintained for the files of these case folders. One was started some time ago, but was discontinued.

Because there is no definite rule as to the kinds of cases which shall be handled by the detective division, and those which shall be handled by the uniformed force, there is considerable confusion, and frequently, discussion which is not conducive to a proper investigation of the complaints. This fact also makes it difficult to fix responsibility. The uniformed commanding officers shirk responsibility by passing the case on to the detective division, and the detective division, because of the number of important cases, feels that the uniformed commanding officers are imposing upon them.

The fact that all complaints are recorded at the detective division makes it difficult to analyze the results of the work of the division, since the complaints which are investigated by the division are not segregated from those which are merely recorded. There is need for a complete reorganization of the recording system, and a change in the procedure. Therefore, it is recommended that the chief provide a definite procedure for the handling of complaints, both at the precincts and by the detectives. This procedure should include provision for a card record of all complaints and the action taken upon them, and definite rules as to the kinds of cases which will be handled

by the uniformed force and the kinds to be covered by the detective division.

The records of the detective division should consist of the following:

1—Detectives' Complaint Book.

The present complaint book is satisfactory, except that the procedure as to entries in it should be changed. No complaints should be entered in this book except complaints made to the detective division or at the precincts which are complaints for investigation by detectives. The complaints should be serially numbered.

2—The Record of Arrests.

The present record of arrests is adequate and should be continued.

3—Card Record of Detectives' Assignments.

This record should include a card for each member and show thereon the record of assignments, including the time assigned, the title of the case and the serial number, the time when the assignment was completed, with a brief statement of the results. Thus, it will be possible at a glance to determine the number of cases investigated by each detective.

4—Record of Property Stolen and Recovered.

This book should have, among other things, printed headings calling for the following information concerning each complaint in which it is alleged property has been stolen: the serial number of the complaint; the name of the complainant; complete list of the property stolen; value of the same; the conditions under which stolen; the date of recovery; manner of recovery; an itemized list of the property recovered; the value of the same; how disposed of; and the date of disposition.

Whether an arrest has been made in connection with the same should also be shown.

5—Complaint Card Record System.

These cards should be provided and kept at each of the station houses and should call for the following information:

Complaint number.

Name of complainant.

Classification of crime.

Place of occurrence.

Time and date of occurrence.

Time and date reported.

Details of complaint.

Description of persons wanted in connection with crime, with their name, address, alias, age, height, weight, color of eyes, color of hair.

Arrest and disposition, providing space for an accurate description of the person arrested for the crime and recording the final disposition of the case.

Under the heading "Final Disposition" should be recorded when convicted or acquitted, and, if convicted, sentence imposed.

On the reverse side of this card there should be captions calling for a description of the property reported stolen and a space provided for recording the progress of the investigation.

Each complaint should be given the same number as it receives in the Detectives' Complaint Book, and all subsequent reference to the case should be by complaint number.

These cards should be filed in the detective division, indexed by a cross-reference card to the name of the complainant and the name of the person complained of. They should be filed by precincts, classified by crimes complained of, and subclassified alphabetically.

Upon receipt of a complaint requiring detective attention, a detective should be assigned at once, whether the complaint is received at the station house or at headquarters. The detective assigned should fill out the complaint card at the time he interviews the complainant. When an arrest is made, the information concerning it, called for under the heading "Arrest and Disposition," should be posted upon the card. Pending the arrest, each day a detective works on the case, he should enter upon the card, under the heading "Progress," in detailed form what duties he performed during the day in connection with the case.

To avoid the necessity for the appointment of additional clerks, all the complaint cards should be prepared by the detectives, and their reports in connection with the case, instead of being made on separate report sheets as at present, should be written upon the card itself.

For the use of the detectives at precincts, and so as to bring the original complaint card to headquarters as soon as possible, thus avoiding the necessity of the detective going to headquarters in order to make his report upon the original card, a second card should be provided which would be known as the "Progress Card." The detectives in the precinct should file their reports and, in each instance, the card should be forwarded each day to headquarters and there filed with the original complaint card. They should be a different color from the original complaint cards.

6—Case Closed Cards.

No case should be closed nor an investigation stopped without an order from the captain of detectives or the sergeant in charge. The order should be in writing and upon a card which will provide headings calling for definite reasons for the closing of the case. The procedure should be for the detective working on the case to write upon the card his recommendation for the closing and his reasons. This card should be presented to the captain and when signed should be filed with the original complaint and "Progress" cards.

7—Detectives' Daily Reports.

Each detective should be required to make a daily report, stating the time he reported for duty; the cases worked on indicated by serial numbers; a brief description of his activities in each case with the names of persons interviewed, and other information which would enable the captain of detectives to judge as to the efficiency of his work. The time spent in court should be shown on this sheet with a record of the titles of the cases. These time sheets should be forwarded daily for review to the office of the chief.

8—Daily Consolidated Reports.

Each morning the captain of detectives should furnish the chief with a consolidated report showing the activities of the division for the preceding twenty-four hours. This report should show under proper headings:

The number of complaints received classified as to crimes complained of.

Total number of complaints under each of the crimes complained of to date during the current month.

Total number of complaints under the same headings received up to the same period of the preceding year.

Total number of cases in court with the results.

The number of detectives present.

The number of detectives absent and the reasons for their absence.

Total number of hours spent by members of the detective division in the investigation of specific cases.

Total number of hours spent in court.

Total number of hours devoted to free-lancing or general work.

The number of arrests made by each detective classified as to crimes.

Total amount of property reported stolen and the total amount of property recovered.

All of this information should be shown by precincts.

The report should be made out in triplicate, one copy being retained on file in the detective division, one copy being retained by the chief, and the original being forwarded to the commissioner of public safety with the daily report of the chief.

9—Weekly Consolidated Report.

Each Monday morning the chief should receive from the captain of detectives a weekly consolidated report which should contain a recapitulation of all of the data contained on the daily consolidated reports. These reports should be made out in triplicate and disposed of in the same manner as the daily report.

10—Telephone Record.

All messages incoming and outgoing should be recorded in this record. The book should correspond to the telephone record suggested for use in the office of the chief and at all of the precinct station houses.

All other records suggested for use of the uniformed force should be kept at the detective bureau as well.

11—Case Folders.

The present system of case folders is adequate, except as to the manner of filing. The files now in use are of the document type which requires that all papers be folded four times. These files should be replaced by steel, vertical, correspondence unit filing cabinets, and all papers filed therein, flat. The case folders should bear the serial number of the complaint, and the fact that a folder is placed in the cabinet should be indicated on the original complaint card.

The records suggested above and their maintenance should involve no more expense, except for initial cost of printing the cards, than is needed to maintain the present system of records, since the complaint cards and the report cards will be made out by the detectives themselves and will take the place of their present individual report. No clerical help will be needed for this work. If the books are properly kept, the recapitulated statistics will be available from week to week. With the installation of this system, the detective division will be equipped with a proper reporting system through which the chief and the commissioner of public safety will be currently advised of the activities of the detectives and enabled to direct intelligently the operations of the bureau of police without any additional expenditure of money.

Boston Pawn Shop System in Use.

The Boston system of recording property pledged in pawn shops and checking the same against the list of stolen property is in use and should be continued.

Division of Criminal Identification.

The division of criminal identification is well organized and maintained. It is in charge of a clerk and stenographer who is given the office title of Bertillon Operator. His salary is \$1,320. He is assisted in the management of the division by a patrolman on detail, who does all of the photographing, both inside and in the field, and is also in charge of and maintains the Boston pawn shop record of pledged and stolen property, of persons charged with felony. All professional beggars are photographed when taken into custody.

Fingerprints Not Classified.

Prisoners are measured and fingerprinted, but the fingerprints are not classified or properly filed. The operator attended the national bureau at Washington for a period of one week to become informed as to the methods of fingerprints and Bertillon measurements.

The fingerprints are of little or no value unless properly filed and classified. As a means of positive identification the fingerprinting of criminals is conceded to be the most perfect of any system in use. It far exceeds in value, as an aid in police work, the Bertillon measurement system. These systems combined serve to increase the efficiency of the detectives in the apprehension and conviction of criminals. Therefore, it is recommended that the Bertillon operator be required to study the methods of classifying and filing fingerprints and that in the future a proper bureau of fingerprints be maintained.

The Rogues' Gallery comprises 2,254 pictures of local characters. In addition to these pictures, there are filed in cabinets about twenty-five thousand pictures of "outside criminals." These are pictures which have been received through the mail from other jurisdictions, clipped from magazines, and from the album of the National Bureau of Criminal Identification.

The pictures in the gallery have, written across the face of them, the name of the person photographed. This is a practice which has long since been condemned, since it resulted in other cities where used in causing persons knowing the names of suspects readily to identify them by the name, rather than by the features, when looking through the gallery. The name should not appear on the face of the picture,

but should be recorded on the back. The pictures in the gallery should be classified in accordance with the class of criminals and divided according to their characteristics.

Distribution of the Force.

The city is divided into two inspection districts and each inspection district is divided into three police precincts. The force is assigned to duty as follows:

	Headquarters	Traffic Squad	Detective Bureau	1st Precinct	2nd Precinct	3rd Precinct	4th Precinct	5th Precinct	6th Precinct	City Hall	District Attorney's Office	Patrol Wagons	Total
Chief	1												1
Deputy Chief	1												1
Inspectors			1	1									2
Captains		1	1	1	1	1	1	1	1				7
Lieutenants			1	1	1	1	1	1	1				6
Detective Sergeants			3										3
Sergeants	1		3	3	3	3	3	3	3		1		20
Detectives		11									1		12
Acting Detectives		7											7
Physical Instructor	1												1
Special Patrolmen	3		3	2	2	1	2	1		1		3	18
Special Officers			3	2	1	2	1	1					10
Woman Police Officer	1												1
Doorman	1												1
Court Officers	2												2
Turnkeys			3										3
Traffic Officers		18											18
Mounted Officers			1	1	2	3	3	2					12
Motorcycle Officers			3	3	3	3	3	3					18
School Census Officers			1	1	1	1	1	1					6
Park Officers						1		2					3
License Officer	1												1
Interpreter	1												1
Patrolmen Traveling Posts, 1st platoon..			8	12	7	3	4	4					38
Patrolmen Traveling Posts, 2d platoon..			14	13	8	7	5	5					52
Patrolmen Traveling Posts, 3d platoon..			21	25	21	20	19	21					127
Total	12	19	25	62	65	49	47	42	44	1	1	4	371

The distribution is in accordance with good judgment and is an equitable division of the force.

Number of Patrolmen Insufficient.

The police force of Rochester, which includes a total membership of 371, has not been increased in proportion to the increase of

population and area and the general conditions of the city. There is at present one policeman for every 671 persons, and the per capita cost of policing the city is \$1.99. This is not an excessive cost as compared with cities of a similar size. The following table shows the strength of the force by comparison with the population of the city for a period of ten years. It also shows the amount of money apportioned for the conduct of the bureau of police during each of these ten years.

Year	Population	Appropriation	Chief	Deputy Chief	Inspectors	Director of Dets.	Captain of Dets.	Capt. Police	Lieutenants	Sergeants	Det. Sergeants	Patrolmen	Park Patrolmen	Interpreter	Woman Officer	Total	Detectives who are included in Number of Patrolmen
1905..	181,666	\$259,375	1	1	1	..	..	6	6	16	..	189	4	1	..	225	10
1906..	190,054	275,380	1	..	1	..	..	6	6	16	..	204	4	1	..	239	9
1907..	198,549	285,075	1	..	1	..	..	6	6	18	..	205	4	1	..	242	11
1908..	200,734	293,700	1	..	1	1	..	6	6	18	..	205	4	1	..	243	12
1909..	207,207	299,925	1	..	1	1	..	6	6	18	..	255	4	1	..	293	14
1910..	218,149	365,800	1	..	1	1	..	6	6	19	..	265	4	1	..	304	16
1911..	225,577	384,800	1	..	1	1	..	6	6	19	..	265	4	1	..	304	16
1912..	230,967	429,560	1	1	2	..	1	6	6	20	3	295	4	1	..	340	17*
1913..	241,000	454,270	1	1	2	..	1	6	6	20	3	295	4	1	1	341	17*
1914..	250,000	481,730	1	1	2	..	1	6	6	20	3	326	3	1	1	371	17*

*Provision has been made annually extending for the past three years for the appointment of 5 additional detectives; while 17 are shown in this list, there are only 12 detectives, the remaining 5 not having been appointed.

Patrol Posts Should Be Shortened.

With the present number of men the patrol posts as laid out are on an equitable basis, the posts in the congested business center are well laid out, and the section receives the proper police protection, but the posts in the remainder of the city are in many instances entirely too long to secure adequate protection. These posts can only be shortened by the appointment of additional policemen.

Because of the shortage of policemen, every effort should be made to make available the services of the patrolmen now performing duties other than patrol. These include the patrolmen assigned to the police court, and the chauffeurs of the police cars, whose places should be filled by civilian chauffeurs.

Police Booths Should Be Erected.

For the suburban sections, the police telephone booth with a policeman stationed there is a more adequate type of police protection

than the continuous patrol over the very long posts. It is, therefore, recommended that the commissioner consider the installation of at least three telephone booths in the outlying sections. These booths should have in them a telephone direct to headquarters and a telephone connected with the general telephone exchange. The householders in the vicinity should be notified of the telephone number of the policeman so that in case of an emergency they can obtain the immediate services of an officer, who would respond to the call upon a motorcycle.

Sanitary Officers.

There are two sanitary officers who are paid out of the police appropriation at the rate of \$75.00 per month. These officers make sanitary inspections and watch out for violations of the sanitary ordinances. The duties performed by these men should be performed by the patrolmen on their respective posts, and there is no occasion for having regularly designated sanitary policemen. If the patrolmen are properly supervised and they perform their duties on their patrol posts as they should, the services of these two sanitary officers could be dispensed with or they could be transferred to the bureau of health to operate under the health officer, their salaries charged against the appropriation of that bureau.

TRAFFIC DIVISION.

There are eighteen traffic posts to which eighteen policemen are assigned. These policemen are organized as the traffic squad and are supervised by a sergeant who is in charge of the squad. They report for duty at headquarters at 9 o'clock in the morning and are on their posts at 9:15. They remain on post until 12:15, when they are relieved by the patrolmen from the nearest patrol posts. They do not return to their posts until 2:15.

Apparent Lack of Training.

The traffic men were closely observed in the performance of their duties and showed a lack of training for their work.

The principal criticism of their methods may be said to be the lack of uniformity of signal in directing drivers of vehicles. At some of the crossings, the traffic men, because of their lack of training, caused considerable confusion. Their procedure of directing traffic lacks a definite signal system. It is difficult for the average driver by watching the traffic man to understand his signals. Therefore, it is recommended that the traffic men be given a thorough course of instruction. To do this, the sergeant should be sent to New York, there

to observe the procedure followed in the direction of traffic, and the instructions given in the school.

The general traffic condition of the city is a serious problem, because of the manner in which the street car lines have laid their tracks. There are no one-way streets and vehicles are permitted to turn in the middle of the streets between the intersecting points. Congestion of some of the streets is such as to point to the need of a complete survey of traffic conditions by competent engineers, with a view to establishing one-way streets, revising the traffic ordinances and arranging with the street railway companies for a change in the layout of their tracks.

The relief of the traffic men by the patrolmen from their patrol beats is a practice which should be discontinued. There is no real reason why the traffic men should be excused from duty from 12:15 until 2:15. Their relief for lunch should be by traffic men serving as relief officers. Between 12:15 and 2:15 is one of the busiest times of the day and the important crossings should receive proper protection at this time, which they cannot and do not receive from the officers coming from their patrol posts untrained for this special kind of service.

The wearing of leggings by the traffic men is to be commended both as a neat and tidy uniform equipment and a healthful practice.

SANITARY CONDITION OF BUILDINGS.

The bureau of police occupies, in all, six buildings including police headquarters. The station houses are clean, orderly and well maintained. The cell houses are of modern, fire-resisting construction. They are well ventilated, lighted, and heated. The first precinct cell house which is of an old type of construction should be repainted, and a new type of bunk provided. All of the cells should be equipped with running drinking water.

Women's Prison.

Women prisoners are detained in a part of the building separate from the main cell house. They are in charge of matrons of whom there are three. The matrons serve on eight-hour tours. The women's division is well arranged, clean, and orderly. The cells are of modern construction, having small bedrooms, which are equipped with cots and bedding. There is one large pen in which are detained unclean or intoxicated women.

The matron maintains a record of all cases.

The women prisoners are arraigned in a court room specially provided for them which is located on the same floor with their

cells. The arrangement is good, especially because the women are not required to pass through any other part of the building to reach their own court room.

The general maintenance and care of the buildings occupied by the bureau of police, with the exception of police headquarters, is under the supervision of the deputy chief. The care of the police headquarters buildings is in charge of the bureau of public buildings.

For the cleaning and care of the five police stations, there are employed by the bureau of police five janitors at \$70.00 per month, five charwomen at \$30.00 per month, and, during six months of the year, five part-time janitors at the rate of \$60.00 per month. The janitors, so-called, are stationary engineers and care for the heating plant in the station houses. During the winter there is a night and day janitor in each station. The cost of cleaning and maintaining these station houses is excessive and the employees more than are necessary. There is no need for more than one janitor at each of these five stations during the entire year. The heating plants in these stations are such as not to require the services of a stationary engineer. Therefore, it is recommended that the commissioner provide for a more economical method of caring for and cleaning the police stations.

ARRESTS FOR INTOXICATION.

Arrests for Intoxication Point to Need for Study.

Almost 50 per cent. of the total number of arrests made each year since 1909 were for public intoxication, as shown by the following table of arrests for intoxication by comparison with the total arrests of the years 1909 to 1913 inclusive:

Year	Total Arrests	Arrests for Intox. Females	Arrests for Intox. Males	Arrests for Intox. Total
1909.....	8,157	278	3,373	3,651
1910.....	8,050	308	3,221	3,529
1911.....	7,596	311	3,134	3,445
1912.....	7,172	379	3,044	3,423
1913.....	7,517	363	2,733	3,096

An Inebriety Problem to Solve.

These figures indicate either that the policemen are making a great number of unnecessary arrests, or that the city of Rochester has an inebriety problem to solve. In either case, a careful analysis of the figures should be made. Under the present system of records, no data can be secured which will be of value in the study of inebriety. It is

impossible to determine from the records the number of habitual drunkards arrested or in fact the number of second, third or fourth offenders. No card record system of persons arrested is maintained. It is important that a study of the causes of inebriety be made at once.

Tables should be prepared showing the history of persons arrested for intoxication. For this purpose a special card record should be established and maintained as a separate and distinct record from the regular bureau records of arrests, this card to contain, among others, printed headings calling for the following information in connection with each arrest for intoxication.

Name.

Address.

Age.

Sex.

Nationality.

Birthplace of parents.

Married or single.

If married, number of children and their ages.

If single, persons dependent upon prisoner for support.

Condition of prisoner when brought into station, as to degree of intoxication.

Short history of cause for arrest.

Whether ever arrested before.

If so, how many times.

Occupation.

Salary received.

Employed or unemployed.

If unemployed, how long.

Cause of unemployment.

Education—

Under this heading the prisoner should be required to state definitely whether his education covered common school, high school or college course.

At what age prisoner first took intoxicating drinks.

Under what circumstances did the prisoner take his first drink?

At what age did the prisoner take to drinking excessively?

What form of intoxicating liquor is the prisoner in the habit of drinking?

Whether prisoner has ever taken any special drink cure; if so, when and what treatment?

Whether prisoner has ever been convicted of crime: if so, how much time was spent in jail?

Disposition of case.

If the prisoner is so intoxicated at the time of his arrest as to be unable to answer intelligently these questions, he should be required to answer them before being arraigned in police court in the morning. Those prisoners who are not arraigned, but who are discharged from custody by the chief, should be required to give this information before their discharge. After the cards have been made out, they should be forwarded to the record and filing divisions, and there filed alphabetically. The facts listed on the cards should be tabulated and studied.

In recording the pedigree of prisoners arrested for other crimes, if the prisoner was intoxicated at the time of the commission of the crime, or if the prisoner is habitually addicted to drink, this information should be shown, and it should be forwarded to the record and filing division to be made a part of the records concerning intoxication.

Intoxication Cases Sent to Workhouse.

There has been established an inebriety farm for women, but male prisoners charged with intoxication are, when convicted, sent to the penitentiary where there is no provision for treating their cases in any manner different from the treatment accorded criminals committed there for the commission of serious crimes.

The need for an inebriety farm for men will be found discussed in the section of this report under the heading "Police Court."

Prisoners' Property Carefully Guarded.

The method of recording property taken from prisoners and held as evidence is in accordance with the state law. The secretary to the chief is designated as property clerk and his conduct of this branch of the business is in accordance with proper procedure and good practice. The property is well cared for and general records are maintained.

SUPPRESSION OF VICE.

The bureau of police is responsible for the enforcement of laws against prostitution and gambling and for regulating the sale of liquor.

The policemen and sergeants are held responsible for the reporting upon conditions with relations to prostitution, gambling and excise on their posts. The policy of the department of safety with relation to prostitution is that of suppression, and, according to the records of the bureau of police, considerable intelligence has been shown in the enforcement of the laws against prostitution, and the chief, through his

commanding officer, has been energetic in the suppression of commercialized prostitution. While no moral survey of the city was made, great care was taken to observe upon inspection tours of the city all police conditions and, with relation to prostitution, it may be said, that, in so far as commercialized prostitution is concerned, the bureau is doing its full duty in its effort to suppress it.

There are operating, however, four or five saloons which permit prostitutes to assemble in their back rooms to solicit men for purposes of prostitution, but during the survey it was observed that even these places were operating in a manner that made it particularly difficult for the police authorities to institute prosecution.

Uniformed Men Used to Inspect Saloons.

It is the practice to have the patrolmen in company with their sergeant visit the saloons which are suspected of being disorderly and inspect them at various intervals during their tour of patrol. This practice has been condemned in most large cities, since it has been deemed wise not to permit the uniformed force to come officially into contact with the owners of disorderly resorts or gambling houses, or even to inspect the saloons for purposes of enforcing the provisions of the excise law. The only function of the patrolman with relation to excise, gambling and prostitution should be that of reporting the conditions observed upon his post without entering any of these premises except when commission of a felony has been reported or is suspected.

Therefore, it is recommended that the uniformed men be relieved of any responsibility in connection with the inspection of such places and that this work be confined to the superior officers.

It is also the practice to use plain-clothes men and sometimes the detectives in the enforcement of these laws. Members of the detective division should not be assigned to this work. They should be free of all responsibility in connection with vice so as to be able to carry on their regular duties successfully. The securing of evidence in these cases should be through specially selected men assigned to this particular duty, whose work should be closely supervised and whose reports should be carefully checked.

The policewoman, according to observations in the field and the records of the department, has been particularly useful as an aid to the chief in the investigation of suspected disorderly saloons.

RECORDS AND REPORTS.

The study of the records of the bureau of police showed that the present system of recording, reporting and filing is much more effi-

cient than that operated in many cities and certainly much in advance of the system which was in operation prior to the incumbency of the present chief. However, there is need for the installation of a new record system embodying those records which at present are satisfactory, adding important records, and dispensing with records which are merely needless duplications.

Need for Record and Filing Division.

In establishing a proper system of records, it will be necessary to provide a record and filing division. The secretary and property clerk should be placed in charge of this division, and at least one additional clerk appointed to assist him. The room now occupied as a filing room is well adapted for use as a record and filing division.

Method of Recording Arrests and Records at Police Station Houses Should Be Revised.

Persons taken into custody as prisoners are delivered by the arresting officer to the conductor of the patrol wagon and taken to the precinct in which the arrest is made. At all the precincts with the exception of the first, the prisoner is arraigned before the desk officer and his pedigree recorded as follows:

- 1—The pedigree of the prisoner is written informally in lead pencil upon a card having printed headings.
- 2—The pedigree is then copied upon a card known as the "Arrest Blotter."
- 3—This information plus the complete pedigree of the prisoner is then recorded upon a second arrest blotter which differs from the first only in that it contains all of the pedigree.
- 4—The pedigree is then entered in a bound book of arrests which is indexed alphabetically.

After searching the prisoner, his property is placed in an envelope especially provided, to which is attached a blank form of receipt, and a description of the property is entered upon the outside of the envelope.

Each morning the patrol wagon makes a tour of the precincts and brings all of the prisoners to the cell house at the central station at which is located the police court. Both the prisoner's property and the two arrest blotter cards are sent with the prisoner to the central station. Both these cards are delivered to the desk officer at the first precinct as is also the prisoner's property. The officer delivering the prisoner brings with him the property book of his precinct, in which is entered a record of the prisoner's property, and which is signed by the

desk officer of the first precinct as a receipt. The desk officer then enters in his own property book a record of the property received, and enters in the captain's docket a record of all prisoners delivered. The prisoner's pedigree is then entered in an alphabetical record of arrests, one book being maintained for women and another for men. The two arrest blotter cards are then forwarded to the investigator at court and used by him to prepare the calendar of cases. At the conclusion of the court session, the arrest blotter is returned to the first precinct with the disposition of the case entered upon it, and there filed away after the disposition has been entered in the captain's docket and a record of adjournment entered in the Adjourned Case Record.

Under the present system the central police station, or the first precinct, is used as a police headquarters so far as records are concerned. This is because little or no change was made in the procedure which was in vogue when the central station was the only police station in the city. It is recommended that the procedure be changed so as to relieve the first precinct of any duties other than those performed at all other police stations and that the records concerning the prisoners brought to court and of prisoners arrested within their own precincts be maintained at the central record and filing division.

Station House Records.

The records at the station houses should include the following:

a—Desk Blotter.

This should be a large bound book with printed headings, in which should be recorded chronologically all movements of the force. It should be the only record in the department known as a "blotter," all other books to be known as "records." The book should be ruled so as to have a marginal column on the left hand side of each page of about two inches in width: the entries in the book and the method of making them should be by specific rules; the pages should be numbered and the rules require that the blotter contain entries concerning the following:

The record of service performed by each member of the department except the detective division, with the time and location of the service in the captain's, lieutenant's or sergeant's handwriting, the time at which they arrived at the station and the time they left, and the purpose of leaving.

Delinquencies of members of the command, referred to only by the title of the charge, name of the person making it, time received and the disposition.

An itemized list of property coming into the temporary posses-

sion of the command or any member of it (not to include property taken from prisoners which is to be reported in the Record of Arrests): a record of the circumstances under which it was found: the name and address of the person who found it, and the name and address of the owner, if known, and the disposition of it.

A record of subpoenas received or served upon members of the force.

All matters reported by members of the command affecting any duty performed by them.

The roll-call at each outgoing platoon and the return roll-call.

Each member of the command should be accounted for in the roll-call of the platoon or detail to which he is attached, and his presence or absence should be noted in the desk blotter.

The following abbreviations are suggested in making entries in the desk blotter:

Surg.	Surgeon
Capt.	Captain
Lt.	Lieutenant
Sgt.	Sergeant
Ptl.	Patrolman
Dect.	Detective
Att.	Attendant
Mtn.	Matron
Plat.	Platoon
Act.	Acting
Comd.	Commanding
Mt.	Mounted
P. P.	Patrol post
O. D.	On duty
O. R.	On reserve
D. D.	Desk duty
P. Wg.	Patrol wagon
S. B.	Signal box
M.	Male
F.	Female

In recording assignments, the names of the patrolmen should be entered on a line with their respective posts or duties opposite each name, space being left at the right of post designation for remarks. Under the heading "Remarks" notation of absences and changes of assignments to duty should be made. A red line should be drawn the length of the page, allowing two inches of margin on the left side. The

entries should be made chronologically as they occur, with the time of the entry written with red ink in the margin. Immediately under the time should be entered, also in red ink, marginal notation as to the subject of the entry; for example, if the entry be to the effect that the captain left to patrol the precinct, the words, "Cap. O. P." should appear in red ink in the margin under the time; or if the entry be one relating to a fire the word "Fire" should appear. The same applies to such entries as roll-call, accidents, etc.

The rules should prohibit erasures in this book and in every other record, and prescribe that in case of error a red line should be drawn through the erroneous entry and a correction written beside it and initialed by the officer making the correction.

b—Record of Aided Cases.

Such accidents as are reported by the police are recorded in an informal book kept for this purpose. There is no index and the description in connection with the cases is wholly inadequate. The book has no printed headings. Because of litigation arising out of street accidents, constant demands are made upon the police of nearly all cities for certified copies of the police records as to the accidents. Therefore, the records of aided cases should be compiled in such a manner as to facilitate ready reference.

A special record book, to be known as the "Record of Aided Cases," should be opened. In this book should be entered a complete and detailed account of all persons receiving aid through the bureau of police. The record in each case should include the name, age, address, color, nationality, and special condition of the person aided, and a detailed statement of facts in connection with the case. It should also include the names and addresses of witnesses, and in brief any statement made by them.

The pedigree of persons who receive lodging at the station house should be regarded as proper entries for the record of aided cases. In making entries of lodging cases, additional information should be recorded under proper heading such as—

Number of times aided by bureau of police.

Number of persons dependent upon lodger for support.

Length of time out of employment.

Occupation.

By whom last employed.

The book should have proper headings. Each case entered should be numbered consecutively, beginning the first case with number "1"

in the series to which it belongs and identifying it by the initial letter of the series, as—

“A” Accident cases.

“L” Lodgers.

“P” Prisoners

c—Telephone Record.

Notwithstanding the fact that much of the business of the bureau of police is conducted over the telephone, no telephone record is maintained in any of the subdivisions or in the main office. It is, therefore, recommended that a telephone record be opened in the office of the captain, the chief's office and the detective division, and that every incoming and outgoing message be recorded. The rank, surname, and command of persons receiving and transmitting the message and the surname and official designation of the persons under whose direction it was sent should be recorded, the time of completing the conversation to be considered as the time of the message.

d—Record of Arrests.

The present Record of Arrests should be continued in use except that the rules should require that each arrest receive a serial number and that arrests for misdemeanors, felonies, juvenile delinquency and vagrancy should have the first letter of each of these words written alongside of the serial number. For example, if the first arrest of the year be for a felony, the serial number would show—1-F: if the second arrest were for a misdemeanor, it would show—2-M: etc. At the end of each month the arrests recorded in this book should be recapitulated so as to show the number of males and females; the occupation and age of prisoners, the number of arrests for felonies, misdemeanors, juvenile delinquents, etc.

In addition to the information now recorded in the Record of Arrests, under the heading, “Remarks,” there should be entered a detailed statement of the facts in connection with the arrest.

e—Citizens' Complaint Book.

The present Citizens' Complaint Book is adequate and should be continued in use, but the procedure as to entries should be changed. The rules should require that no complaints be entered in this book except complaints made affecting conditions within the precincts. These complaints should receive a serial number in the order of their receipt. The present practice of entering in this book complaints telephoned from other precincts

should be discontinued, as should also the practice of telephoning these complaints. If a general alarm for a missing or wanted person is sent over the telephone, the description and the entire message should be entered in the telephone record. Nothing should be entered in this book except complaints from citizens.

Procedure for Handling Complaints.

It is recommended that the procedure to be followed at the precinct station houses in the handling of crime complaints provide for the following:

- 1—That the complaint shall be entered in the Citizens' Complaint Book.
- 2—That a copy of the entry in the Citizens' Complaint Book be made upon a card record, which card shall contain similar printed headings and shall show the post upon which the matter complained of occurred and the name of the police officer on duty at the time.
- 3—That these cards shall be forwarded to police headquarters each day and there filed by precincts, subdivided as to posts. These cards should be reviewed by the chief each morning before they are filed. They should be held at the precinct sufficiently long to permit of entry upon them, when possible, of the result of the investigation, provided the complaint is investigated by members of the uniformed force. If they are investigated through the detective division, the cards should be referred to the captain of detectives for review by him, and the cards copied in the Citizens' Complaint Record of the detective division. The result of the investigation should be posted on these cards in the detective division before being sent to file.

The Citizens' Complaint Record in the detective division should contain a record of every complaint received, whether upon these cards or by citizens direct.

f—Time Record.

The Time Record now in use is the standard time book which accounts for the presence or absence of all members of the command, the book being ruled for a month's time record upon each page. This record should be abandoned and in its place a loose-leaf time record installed which will provide one sheet for each man, covering twelve months of service. The time record should be an exact duplicate of that suggested for use at headquarters, and in the office of the commissioner of safety.

CARD RECORDS.

Specially printed cards for recording arrests, aided cases, lodgers, arrests for intoxication, licensed places and requests for special service should be provided each command.

Record of Licensed Places.

A card record should be maintained of every licensed business. This card should originate in the office of the license bureau. It should contain the name, character of business, number and kind of license issued, date of issuance, and the date of expiration. As each license is issued, the license clerk should be required to fill out one of these cards and forward it to the precinct in which the licensed premises are located. Upon the back of this card provision should be made for entering the day and date of inspection, the result of inspection, and a record of any arrests, not only as directly affecting the premises, but any arrests from the premises or concerning it. The present record of licensed saloons should be continued in use. The present blotter which contains the pedigree of the prisoners, and which is delivered to the clerk of the court each morning, should be revised and reduced in size to not larger than four by six inches. A card should be prepared for each arrest and forwarded as is the arrest blotter at present, but, instead of being forwarded to the court, should be retained in the record and filing division and there filed alphabetically, thus providing a card index of persons arrested. When this record is established the present captain's docket and the index of arrests now maintained in the first precinct should be abandoned.

Aided Card.

A card containing printed headings, identical with those of the Record of Aided and Accident Cases already suggested, should be provided and one filled out for each case and forwarded to the record and filing division and there filed, thus providing a card index of all accidents and aided cases.

Intoxication Card.

In addition to the regular Arrest Card suggested, in each case of arrest for public intoxication a separate card to be known as the "Intoxication Card" should be made out. The headings upon this card and the information which should be recorded thereon are fully described in the section of this report under the title of "Arrests."

Lodging Card.

A record of persons given lodging at the police station is kept in the record of arrests. In order that the city may have complete statistics concerning the unemployed and those applying for lodging at the station house, it is recommended that a card record of such cases be maintained. The card should call for detailed information concerning the history of the applicant for free lodging and should have printed headings as follows:

Name.

Age.

Address.

Length of time in city.

City of actual residence of the applicant.

Under what circumstances did the applicant come to Rochester.

Promise of employment—visit—or to make residence.

Occupation.

When last employed.

By whom last employed.

Length of time in last position.

Salary.

Where born.

Citizen or alien.

Married or single.

Number of persons dependent upon the applicant for support.

Whether applicant uses intoxicating liquors to excess.

Whether applicant has ever been convicted of crime.

Whether applicant learned his trade in prison.

Time spent in prison, if any.

Cause of present unemployment.

Education, none, common school, high school, university.

At what age applicant first went to work.

Whether applicant was an orphan when first employed.

When last given free lodging.

Name and address of children whom applicant believes could give him aid.

These cards should contain an accurate description of each lodger. They should be kept on file in the captain's office and used by the desk officer to determine whether an applicant has previously received lodging. In case an applicant appears to have applied frequently for lodging, his case should be investigated, or he should be charged with vagrancy and committed according to the result of such investigation.

Record of Request for Special Services.

Persons desiring the special services of policemen for important meetings, large assemblages, etc., should be required to fill out an application upon a card form which should show :

Precinct post number.

Date of application.

Place where special service is required.

Time and date service is required.

Number of persons expected.

Nature of assembly, meeting, or occurrence requiring special service.

Under whose auspices.

Name of person to whom police should report for instruction or information.

Estimated time services required.

Remarks.

Signature and address of applicant.

On the reverse side should be shown "action taken" (indicating whether services were required indoors or out) and also :

Rank, signature and commission.

Names of men assigned to special service.

Shield number.

Off duty, reserve or from duty.

Number of hours and date on special work.

Special Forms.

The special forms now in use for reporting fires, suicides and accidents should all be reduced to a card not to exceed four by six inches and when received at headquarters should be forwarded to the record and filing division and there filed alphabetically, or in the case of fires, by location.

Precinct Reports.

Each morning the captains are required at present to file a daily report showing the names of persons arrested and the charges against them, complaints received, the hours of arrival and departure of officers, etc. This form of report should be abandoned and in its place substituted a printed form of record to be known as a Daily Morning Return. The return should have printed headings calling for information as follows :

The number of men present on each of the three platoons.

The number of officers by rank.

The number and names of persons absent and the cause of the absence under the following classifications:

Detailed, with leave, without leave, sick, suspended.

The total number of posts day and night.

Number patrolled, number not patrolled.

Number of persons aided with description of the manner aided, classified as to sex, as follows:

Number sick.

Injured.

Rescued drowning.

Suicide.

Found dead.

Found drowned.

Lost children found.

Foundlings.

Lodgers.

(Disposition of these cases should be shown under proper headings, such as sent to hospital, to morgue, to home, etc.)

All arrests, classified as to offenses and subclassified as to felonies, misdemeanors, juvenile delinquents, showing the number of male and female arrests under each of these subclassifications.

(The names of persons arrested should not be included upon this report because all the information concerning arrests and aided cases will be forwarded upon the cards.)

The number of complaints received classified as to subjects complained of, such as burglaries, murders, hold-ups, pick-pocket cases, larcenies, etc.

The number of persons reported missing.

The amount of property reported stolen.

The amount of property recovered.

Number of convictions, classified as to crime and the sentence imposed.

Remarks.

Under the heading "Remarks" should be entered any unusual occurrences, such as injury to property, etc., etc.

Consolidated Daily Return.

From the six daily returns from the six precincts and the detective division, the record and filing division should be required to prepare a daily consolidated return which would contain all of the information listed upon these morning returns in consolidated form. The consoli-

dated report, however, should make provision with regard to complaints received for a detail crime classification in accordance with the following suggested classification:

Crimes of Violence.

Homicide—
 Accidental.
 Murder.
Assault—
 Simple.
 Felonious.
 Attempted felonious.
Kidnapping.
Extortion.
Rape.
Arson—dwellings.

Crimes of Theft.

Burglary—
 Residence—day.
 Residence—night.
 Business—day.
 Business—night.
Unlawful entry.
Larceny—
 Grand.
 Pickpocket.
 Attempted grand.
 Attempted petit.
Robbery—
 Highway.
 Attempted highway.
 Accompanied by assault.
Stolen property—
 Buying.
 Receiving.
False pretense—
 Obtaining money or property.
Forgery.
Fraud.
Blackmail.

Crimes of Children.

Theft.

Disorderly.

Begging.

Peddling.

Gambling.

Use, possession or traffic in habit-forming drugs.

Crimes Against Children.

Cruelty to

Rape of

Endangering morals of

Selling liquor to

Selling tobacco to

Unlawfully exhibiting

Failure to provide for

Failure to comply with compulsory education law.

Employing in violation of labor law.

Admitting minors to dance halls, moving picture shows,
theatres, etc., unlawfully.

Abandonment of

Complaints Against Chastity.

Prostitution—

Keeping and maintaining houses of

Disorderly houses.

In connection with saloons.

In connection with employment agencies.

Houses of assignation.

In tenement houses.

Street soliciting.

Mann act, (white slave law) violation of the

Male living from proceeds.

Collusion of police with those engaged in

Renting property for purposes of

Abduction—

Of minor.

Of adult.

Seduction.

Bastardy—

Of adults.

Attempted.

Immoral exhibitions and performances.
Indecent exposure.
Distribution of obscene pictures or literature.
Crimes against nature.
Adultery.

Complaints of Gambling.

Pool selling.
Policy.
Bucket shops.
Gambling house.
Lottery.
Street gambling.
Poker clubs.
Slot machines.

Complaints of Drug Habit.

Habit-forming drugs—

Use of
Possession of
Sale of
Maintaining establishments for use of

Complaints Involving Regulative Statutes

Excise—

Illegal sale of liquor
Disorderly saloons
Sale of liquor during prohibited hours
Miscellaneous

Election law, violation of—

Illegal registration.
Illegal voting.
Fraudulent practices in connection with elections.

Employment agency law, violation of—

Operating without a proper license.
Municipal rules and regulations governing, violation of

Sabbath law, violation of the

Motor vehicle laws, violation of—

Operating without a license.
Speeding.
Miscellaneous.

Firearms—

Carrying concealed.

Discharging.

Illegal sale of

Labor law, violation of

Tenement house law, violations of

Usury.

Condition of boilers.

Miscellaneous.

Complaints Concerning Violations of Regulative Ordinances.

Health, violation of sanitary code—

Sale of exposed foodstuffs.

Expectoration in public places.

Food adulterations.

Miscellaneous.

Fire protection and prevention—

Sending of false alarms.

Reckless blasting.

Storing combustibles without permit.

Sale of fireworks without permit.

Failure to comply with fire prevention rules and regulations.

Miscellaneous.

Ordinance with relation to weights and measures, violation of
Licenses—

Operating without license.

Miscellaneous.

Traffic conditions—

Speeding.

Congestion.

Miscellaneous.

Park regulations.

Dance halls—

Disorderly.

Admitting minors.

Improperly conducted.

Miscellaneous.

Pool and billiard parlors—

Disorderly.

Admitting minors.

Improperly conducted.

Pawnbrokers, affecting or concerning.

Theaters, regulations concerning—

Overcrowding.

Ticket speculating

Miscellaneous.
Mendicancy.
Unnecessary noises on highways.
Push cart peddlers.
Miscellaneous.

Destruction of Property.

Arson—

Business property.

Malicious—

Sending false fire alarms.

Injuring city property.

Interfering with railroad signals.

Interfering with private property.

Miscellaneous.

Miscellaneous Complaints.

Abortion.

Fugitive.

Vagrancy.

Suspicious persons.

Interference with lawful assemblages.

Disorderly persons.

Conspiracy.

Derelicts in river.

Cruelty to animals.

Complaints of matters under jurisdiction of other departments.

Method of Making Consolidated Daily Return.

The listing of the complaints received, however, should be made from the complaint cards forwarded at the precincts and the detective division, and the number of complaints should be shown by comparison with other periods. This crime classification should be used as the standard classification for statistical purposes in recording complaints upon all records of the bureau.

The Consolidated Daily Return should be made out in duplicate, one copy retained on file in the office of the chief, and the original copy forwarded to the commissioner of public safety.

Weekly Report of Action on Complaints.

Each week the information contained upon the Consolidated Daily Return should be recapitulated upon a weekly report and should show the number of complaints received and classified in accordance with the crime classification during the current week of date—for the

year, for the current week of the preceding year, and the date for the preceding year, thus enabling the commissioner to determine whether crime is on the increase or the decrease.

Upon the same record should be shown, alongside of the number of complaints received of each of the crimes, the results of the investigations of specific complaints such as—Unfounded, No Results, Arrests, Convictions, Acquittals, Etc.

Monthly Report of Services Rendered.

The present report as to services rendered should be revised so as to remove all reference to the investigation of complaints. Its use, with this exception, should be continued. Since the arrests will be shown on the suggested consolidated report, the monthly report of arrests now in use should be discontinued.

Surgeon's Monthly Report.

The surgeon should render a monthly report in accordance with the suggestions contained in the section of this report under the heading "Surgical Division."

Annual Report.

While the annual report as at present issued shows considerable information concerning the operations of the force, it fails to present a complete crime-condition-picture, and it includes considerable information of a type which it is unnecessary to print in an annual report, for example, the list of the names and addresses of the force, list of persons arrested for other jurisdictions, etc.

Based on the records, the annual report should contain adequate statistics of police activity arranged in tables which would be of real value in determining the efficiency of the force, showing the crime conditions of the city, furnishing a guide to the council in the matter of enacting ordinances affecting the police in the suppression of crime, and presenting a true picture of the activities of the bureau, not only by a statement of facts for the year reported upon, but by comparison with former years.

The report should be divided into sections as follows:

1—A section devoted to the welfare of the force. In this section should appear tables showing:

Number of appointments.

Transfers.

Promotions.

Deaths.

Dismissals.

Trials upon charges and dispositions.

Reinstatements.

Number of days of absence of policemen due to illness.

Prevailing causes of illness.

Sanitary condition of station houses.

- 2—A section showing the financial condition of the bureau. In this section there should be tables showing:

Total amount of money appropriated, year by year, for the past five years.

Expense tabulated as to salaries, repairs and supplies, new equipment, feeding of prisoners, printing, procuring of evidence, maintenance of horses and automobiles, and other expenditures.

Revenues from license fees, sale of condemned equipment and policemen's fines.

- 3—A section giving statistics as to repairs and supplies prepared in tabular form as to—

Repairs.

Character, amount and value of new equipment purchased.

Supplies.

- 4—A section showing the activities of the force. This section should be divided into two parts, namely, detective division and uniformed force—

a—Under the heading "detective division" the fullest detailed statistics possible should be furnished in tabular form as to the following:

- (1) Complaints received requiring detective attention, showing the number investigated, the number unfounded, the number upon which arrests were made, those upon which no action at all was taken, and the number upon which no results were obtained after action had been taken.
- (2) Arrests for felonies made by members of the detective division classified as to crime, showing the number of males and females, and the disposition of the cases under the headings—"convicted," "acquitted" and "pending."
- (3) Arrests for misdemeanors. The same classification as for felonies should be used.
- (4) Separate tables showing arrests upon warrants, pick-ups and those brought back from other cities.
- (5) Number of murders committed and reported each year for the five preceding years, with the number of arrests and dispositions stated in the same table.

(6) Cases of burglary and house-breaking reported. The table should show how the burglary was effected under a form heading, such as—false keys, breaking doors insecurely fastened, etc., and the hours between which the burglary was believed to have been committed, the total value of property stolen, the total value of the property recovered, the number of cases in which no ultimate loss occurred, number of cases in unoccupied houses, and the number of cases in which violence was used.

(7) Number of arrests and investigations made by each member of the detective division, classified as to crime and place under proper headings.

b—Under the heading “uniformed force” the fullest detailed statistics should be furnished in tabular form as to the following—

(1) Complaints received and investigated by the uniformed force, showing the number investigated, the number unfounded, and the number upon which arrests were made, those upon which no action at all was taken, and the number upon which no results were obtained.

(2) Arrests for felonies made by the members of the uniformed force, classified as to crime, showing the number of males and females, and the disposition of the cases under the headings,—“convicted,” “acquitted” and “pending.”

(3) Arrests for misdemeanors. The same classification and headings as for felonies should be used.

The report should also contain—

(4) A separate table of arrests classified by crimes, in which should be noted all arrests made by motorcycle men, together with the disposition of same. All of these tables should show the total number of arrests under the same heading for each of the preceding five years.

(5) A section showing in tabular form persons aided by the bureau of police. This table should show the number of male and female persons to whom assistance has been given. By persons aided is meant injured persons sent to the hospital, missing persons found, dead bodies sent to the morgue or home, children found by the police, foundlings taken care of, etc.

The headings for this table should include—

Assault.

Accidental injury.

Attempted suicide.

Found dead.

Found drowned.

Insane.

Rescued from drowning.

Sick.

Suicide.

Persons missing—

Number reported missing.

Number located by police.

Number otherwise found.

Number still missing.

Lost children—

Number reported lost.

Number found by police.

Number still missing.

Foundlings—

Number found by police.

Number brought to the station house.

Lodgers.

The side columns should contain the following headings—

Male.

Female.

Total.

Claimed.

Taken home.

Taken to hospital.

Attended at station house.

Prisoner.

Taken to morgue.

Restored to parents.

- (6) A section showing general crime statistics. This section should contain in tabular form the fullest statistics as to the following:

a—Arrests for intoxication. Headings for this table should be so arranged as to show in separate columns the number of arrests between 1 A. M. and 6 A. M., 6 A. M. and 1 P. M., 1 P. M. and 7 P. M., 7 P. M. and 1 A. M. on each day of the week. Additional headings based on the information contained on the intoxication arrest cards should be incorporated in a table. A distinction should

be made between arrest for intoxication and disorderly conduct involving a breach of the peace.

Because of a lack of statistics concerning arrests, it will be impossible in the next annual report to show arrests for more than one offense by the same persons. Columns, however, under the headings—first, second, third and fourth arrests should be incorporated in the table and the information under these headings based upon the statements of the prisoners as to the number of former arrests. In subsequent years, however, the information under these headings should be based upon the department's own statistics.

b—Arrests for disorderly conduct and prostitution. These tables should show the nationality and sex of all prisoners, classified as to crime. The information in this table should be in accordance with the forms already suggested.

c—Arrests for juvenile delinquency. This table should show the number of children arrested for juvenile delinquency of various ages, classified as to the nature of offense. It should show the disposition of each case under the following headings:

Tried

Convicted.

Acquitted.

Discharged.

No complaints taken.

Paroled.

On bail.

Detained in charitable institutions.

Sent to reformatory school.

Forfeiture.

Death of defendant.

d—Sentences of persons imprisoned and fined. This table should show the amount of fines tabulated in amounts from \$5 to \$1,000 with side columns for terms of imprisonment from five days to over ten years.

e—Terms of imprisonment, tabulated to show sentences imposed, from five days to life, classified as to crime.

f—Arrests for intoxication, disorderly conduct and prostitution on holidays.

g—Disposition of all arrests, classified as to offense, showing total number of arrests made for each crime, records

of convictions and acquittals (with sub-classifications as to convictions by plea of guilty, or by trial and acquittals by direction, by verdict), or discharged (sub-classified as to discharge by magistrates, or grand jury, by dismissal of indictment, or on own recognizance) and cases pending, subdivided as follows:

In jail.

On bail.

Under parole and forfeiture.

h—Persons convicted of offenses, classified according to age and sex.

i—Record of weapons confiscated, classified as to—

Revolvers.

Shotguns.

Stiletos.

Swords.

(7) Signal Service—Under this heading should be given statistics as to the number of incoming and outgoing telephone calls over the department wires as well as through the municipal board, and all recommendations as to improving the telephone service.

(8) Recommendations—Under this heading should be noted all recommendations concerning the force and its management.

POLICE COURT.

The police court is presided over by a police justice who has the combined powers of a police magistrate and a judge of the court of special sessions as organized in other cities.

The justice is elected for a term of six years and receives a salary of \$4,200 per year. The present incumbent took office January 1, 1914.

The Court Well Arranged.

The court room is located in the building occupied as police headquarters and has an entrance separate and apart from the entrance to the police offices. The court room is well lighted and ventilated and the physical arrangement of the furniture and equipment is practical. Ample provision is made for an orderly presentation of the cases.

This court room when originally constructed was adequate and sufficiently spacious to accommodate the business of the court. It is now too small, since there is not ample room to accommodate the number of prisoners who are of necessity required to attend the daily session.

Women's Court.

For the trial of cases in which women are defendants there is maintained a separate court room immediately adjoining the women's detention room which is located on the second floor of police headquarters. This room is properly equipped and the conduct of the cases is in accordance with the best practice. No persons other than witnesses, police officers, and the female probation officers are permitted to be present during the trial of cases.

Court Sessions.

Court convenes at 9:30 and remains in session until all of the cases are disposed of, which is usually about 12:30. There are no afternoon sessions except when examinations in important cases are held. There are no Sunday sessions of the court, nor does the court convene upon the more important holidays.

For the convenience of persons arrested on Saturday and unable to secure bail, and, in order to expedite the business of the police bureau, it is essential that the court hold sessions on Sundays and holidays. The holding of Sunday sessions of the court and the disposing of the Saturday night cases would relieve the police bureau of

inconvenience and expense attached to the feeding of the prisoners on Sundays and holidays.

Assistant District Attorney in Attendance.

There is assigned to the police court an assistant district attorney who is in attendance at all of its sessions and who conducts the prosecution of the more serious cases. He receives a salary of \$2,000 per year, of which the county pays \$1,000 and the city \$1,000. His presence in the court is not only an aid to the justice and the police bureau but also to the district attorney's office, for he is able in serious cases to prepare the data for submission to the grand jury.

In addition to his attendance at the court, this assistant also handles all appeals from the decisions of the police justice and the justices of the peace throughout the county. He reports directly to the district attorney.

Police Court Investigator.

The police court investigator, who is appointed by the court, receives a salary of \$1,600 per year. His functions consist of making a preliminary investigation of the facts in each case, before the case is submitted to the court. To facilitate this investigation he is furnished by the police bureau with a card record—"arrest blotter"—of each case, which is prepared at the station house at the time of the arrest of the person. Upon this card appear the charge against the prisoner and his pedigree. In addition to this card the bureau of police also furnishes the investigator with a report upon the case, which is made upon a printed form at the station house at the time of arrest.

The investigator interviews the policeman appearing in the case, and frequently the defendant. He advises the judge and the district attorney of the results of his investigation in order that they may be guided in the handling of the case. He maintains a card record of all cases and the disposition thereof. From these records he can determine the number of previous arrests and conviction of persons arraigned in the court.

In addition to his duties in connection with the preliminary investigation he frequently makes special investigations for the court in non-support cases and of applications for warrants.

The present incumbent has held this office for thirteen years, and appears to be most efficient. His investigations, according to the records, indicate thoroughness, and the plan of conducting these investigations is to be commended.

Procedure.

Each morning the police court investigator prepares the docket for the justice. This docket contains the record of each case to be heard, and the facts as stated in the information. In addition to this, the investigator prepares for the justice a brief memorandum in each case, based on his investigations, prior to the opening of court. This investigation takes the form of interviewing the police officers, frequently the prisoners themselves, and referring to his own card record of previous convictions.

In all cases an information is prepared and filed, as is also the commitment. Informations for intoxication and vagrancy are almost always written at the precinct station house and forwarded to the court.

The justice has before him on his desk the docket, the calender of adjourned cases, which is in a bound book, the information, and the data furnished him in memoranda form by the investigator. The commitments, which are signed in accordance with law by the clerk of the court, are retained by the deputy clerk.

The judge makes a pencil notation upon the docket of all decisions. Proceedings are recorded stenographically, but transcribed only in cases of appeal or "held for the grand jury."

This procedure is in accordance with good practice, and the system of investigating cases prior to the opening of court is to be commended. The records would be more complete and the employees receive added protection, if upon each information there were printed a form or endorsement to be filled in by the magistrate at the conclusion of each case.

Clerical Division.

For the preparation of informations and the maintenance of the records of the court there are employed:

- 1 chief clerk at \$1,600 per year;
- 1 deputy chief clerk at \$1,300 per year;
- 1 confidential clerk at \$1,300 per year;
- 1 court stenographer at \$1,800 per year.

The chief clerk, his deputy clerk, and the confidential clerk are the personal appointees of the judge and serve at his pleasure.

The present incumbent of the office of chief clerk has held the office for the last thirteen years, while his deputy has served in this capacity for the last eight years.

The chief clerk is in charge of all the records of the court, supervises the work of the other clerks and attendants, collects fines, and

has custody of the court funds pending their delivery to the comptroller. As custodian of these funds, he is under bond for \$2500. He has power to administer oaths in all cases of affidavits and depositions either in applications for warrants or complaints, except in cases governed by the code of criminal procedure.

The deputy clerk keeps the court docket in which are recorded all cases tried in the court. He performs clerical functions as assistant to the clerk of the police court and exercises the same statutory powers as the chief clerk.

The confidential clerk serves as secretary to the justice, being in attendance at all sessions of the court and remaining at the justice's office in the municipal building during the afternoon.

The court stenographer is appointed by the commissioner of public safety as the result of a competitive civil service examination. His functions consist of making stenographic reports of proceedings in the police court, and transcribing these in cases of appeal and cases in which the defendant is held to await the action of the grand jury.

He performs no service whatever for the police bureau, although his salary is paid out of the appropriation for the maintenance of this bureau.

The appointment of the stenographer should be made by the justice and the salary paid out of the appropriation for the maintenance of the police court.

Other Attaches of the Court.

Instead of employing one interpreter capable of speaking and understanding several languages, there are retained three interpreters, one to act in Italian cases, one in Russian and Polish cases, and one in German cases.

The Italian interpreter is appointed by the commissioner of public safety at a salary of \$900 per year, which is charged against the appropriation of the police bureau.

The Russian and Polish interpreter is appointed by the justice of the court at \$900 a year, but the salary of this interpreter is charged to the appropriation for the maintenance of the court.

The German interpreter is a member of the detective division of the bureau of police. He receives a salary of \$1,200 per year. He is detailed to the court by the commissioner of safety because of his incapacity to perform regular police service by reason of his age and physical condition. In addition to serving as interpreter, he performs messenger service and acts as an attendant in the court room.

There is no logical reason for retaining the services of three interpreters when it would be possible to secure at a slightly increased

salary one interpreter capable of serving in most foreign language cases.

Policemen Detailed to Court.

In addition to the detective serving as interpreter, there are detailed, as attendants in the court, three patrolmen, one of whom serves as guard to the justice and as custodian of the prisoners during the session of the court. During the afternoon, after court has adjourned, he attends the justice in his private chamber.

The two other officers are in attendance in the court room performing duties as court officers.

All of the policemen detailed to the court should be returned to active police duty, as all the attaches of the court should be employees of the court paid out of the moneys appropriated for its maintenance and supervised by the justice and chief clerk. There is scarcely any need for the assignment of a policeman to guard the justice and there are sufficient officers in attendance as witnesses in the court each morning to preserve order.

Probation Officers.

There are attached to the court two probation officers—one female for the handling of women's cases and one male for the handling of men.

The female probation officer is appointed by the commissioner of public safety and receives a salary of \$600 a year, which is paid from the funds appropriated for the bureau of police. The records maintained by this probation officer are most incomplete and not in accordance with good practice in that she does not secure or record any history of the women placed in her charge on probation, except as to the pedigree and date of parole and expiration of parole. She makes no daily reports, and the annual report made by her to the commissioner of public safety does not contain sufficient information to enable the administrative head to determine the efficiency of her work.

The male probation officer is appointed by the commissioner of public safety at \$900 per year. In addition to his salary as probation officer to the police court, he also receives \$900 per year as probation officer to the county court.

The records maintained by the male probation officer were found to be no more complete than those maintained by the female probation officer.

Both of these officers should be appointed by the justice of the police court and paid out of the appropriations for the maintenance of the court. To do this it would be necessary to amend the charter,

since their appointment by the commissioner of public safety is required by law. These probation officers should operate under the supervision of the justice and the male probation officer should be required to give his entire time to police court cases.

The records maintained by the probation officers should include a complete history of the persons placed on probation, emphasizing such facts disclosed by the investigation as would tend to show the probable cause for the delinquencies of the person placed on probation. Detailed information as to the early life, home environment, education and habits of each person in their charge should be ascertained and recorded in each case by the probation officers. The record should disclose detailed information as to the aid given by the probation officers and the progress made in each case.

Under the present system probationers are, for the most part, merely required to visit the probation officers at specified times and the date and time of the visits are recorded.

Probation officers should be required to furnish the court with a monthly report which would accurately describe activities and the progress being made in the case assigned to them. Reports of a general character, dealing only with figures as to number of visits and number of interviews or telephone messages, should not be accepted.

The probation officers should be provided with printed history cards which would have printed headings calling for detailed information concerning the life history of the probationer. As far as possible the information given by the probationer should be verified and the report of the investigations made a part of the record. The information thus secured should be summarized and tabulated each year and included in the annual report to the court, thus furnishing the basis of an analysis of the causes of delinquency and serving as a guide to the court in the handling of cases coming before him.

Prisoners Permitted to Smoke in Pen.

Immediately adjoining the court room is the prisoners' "pen" or detention room in which the prisoners remain while waiting the calling of their cases. Smoking is permitted in this room, with the result that when the door leading to the court room is open the smoke from the detention room passes into the court room. It is recommended that smoking be prohibited in the prisoners' pen.

Records of Court.

Although this court is not a court of record, it maintains a record system, which, for the most part, may be said to be good. The official record is known as the court docket. It is a bound book in which

all cases are entered chronologically. It is not indexed, nor is any regular form followed as to the manner of entry. It is recommended that an index be provided for this book. -

Adjourned cases are entered in a diary especially kept for this purpose. All fines collected are recorded in a book especially provided for the purpose, the fines being entered under the title of the case and the disposition of the fine, such as "police pension fund," "police fund," "society for the prevention of cruelty to animals," etc. Each month the fines collected are totaled and the money delivered to the comptroller. This record is audited and checked against the other records by the officers of the police pension fund and examiners from the comptroller's office.

System of Filing Defective.

All of the documents of the court, such as information, affidavits, warrants, and other papers forming a part of the record of the cases, are filed without regard for indexing or cross-indexing. Each day all of these papers are tied together in a bundle and placed in a filing cabinet, thus making speedy reference difficult.

A new system of filing should be installed which would provide for the alphabetical filing of all documents under proper classification.

Inadequate Check on Warrants.

As warrants are issued they are delivered to the bureau of police for service. No record of the warrants delivered is maintained at the office of the clerk of the court. It is recommended that the clerk list all warrants delivered to the police and require a receipt of the person representing the bureau of police, to whom the warrants are delivered.

Record of Pistol Permits.

All pistol permits are issued by the courts. Applications for permits are usually accompanied by a letter recommending the issuance and are in some cases approved by the bureau of police, although it is not the practice to refer all applications to the police for investigation. The applications are filed chronologically in the document file, but an index is maintained.

It is recommended that the court adopt the policy of referring to the chief of police for investigation all applications for permission to carry firearms and that the chief of police be requested to make a written report with recommendations in each case.

No Annual Reports Prepared.

Except that the chief clerk prepares an annual financial statement as to the receipts and disposition of moneys received by the court as

finer or forfeits, no annual report of the business transacted in the court is prepared.

It is recommended that the court cause to be issued annually a complete and detailed report of the business carried on in the court. The information contained in this report should be arranged in tabular form and aim to furnish statistics as to complaints of crime and the disposition of the cases complained of. The number of warrants issued and the action taken upon them; the ages of defendants and the crimes charged; the number of repeated offenses and the sex of prisoners properly tabulated on a comparative basis, among other information, should be included in the annual report.

BUREAU OF FIRE.

Commissioner of Public Safety Administrative Head.

The commissioner of public safety is the administrative head of the bureau of fire. He exercises complete control over its management and operation and makes all appointments, promotions, assignments to duty, transfers, retirements, and dismissals.

Commissioner Receives Inadequate Information.

Although the commissioner is responsible as the head of the bureau for its efficient management he does not receive adequate information concerning its operation nor is the information which he does receive of a kind which would make possible intelligent direction.

Each morning the commissioner interviews the chief and receives from him general information concerning the operation of the force. The chief files a monthly report with the commissioner in which he merely states the number of alarms received during the month, the number of fires, and the type of construction of the buildings in which the fires occurred. The report of the chief for the month of May, 1915, is presented as a typical monthly report:

“ Mr. R. A. Hamilton,

Commissioner of Public Safety.

Sir:—

I herewith respectfully report that this department received during the month of April, 1915, 123 alarms divided as follows, viz:

44 on the Gamewell System, 69 telephone and 10 verbal.

There were 113 fires, 26 in brick, stone or concrete buildings, 50 in frame buildings, and 37 outside of buildings.

During the month the department responded to 3 false alarms, 1 on the Gamewell System and 2 telephone.

Respectfully submitted,

(Signed) Charles Little,

Chief of Department.”

The information contained in this report is merely a summary of the information contained upon the individual file reports which are sent to the office of the commissioner immediately after each fire. There is nothing to inform the commissioner as to the number of fire prevention inspections and the results thereof, the fire loss, the absence of members of the force and the causes thereof, the condition of the apparatus and horses, the orders issued to the force or the efficiency of the force.

Commissioner Should Receive Daily Reports.

If the commissioner is to guide the affairs of the bureau of fire intelligently he must have before him at all times adequate information concerning the operation of the bureau and its members. He should receive current reports which would concisely and accurately describe the activity of the chief and his subordinates. In addition to the individual fire reports which he now receives (and which should be revised so as to contain additional information) he should receive individual company reports from each company which responds to each alarm. The strength of the force and its movements should be described in a daily consolidated report which should reach his desk each morning. A specially designed form should be provided to be known as the daily consolidated return. This form will be found fully described in the section of this report under the heading "Records and Reports."

Chief the Executive Head.

The executive head of the bureau is the chief. The present incumbent has been a member of the bureau for twenty-two years and at its head for twelve years. His supervision of the force is good and he exercises proper control over the members of the force, maintaining excellent discipline.

Chief Should Have Added Powers

Except that the chief is permitted to detail members of his force for special duties, he has no power to transfer firemen or officers from company to company or to make permanent assignments. Transfers are frequently made by the commissioner of public safety without the approval or advice of the chief.

The chief's long years of service and his close supervision of the force are responsible for his apparent capable management. His knowledge of the city and the structural condition as well as of the capabilities of his subordinate officers and firemen makes him especially fit to distribute his force as he deems wise. Therefore, it is recommended that the commissioner of public safety delegate to the chief the power to transfer from station to station members of the fire bureau at such time and in such manner as he finds it necessary, requiring only that he report to him and secure his approval. This would add to the efficiency of the department and greatly relieve the commissioner of a routine duty which can best be performed by the chief.

In making promotions and in all matters affecting the personnel of the bureau, the commissioner, before finally acting, should receive the opinion and recommendation of the chief of the bureau in written reports.

The rules should require that all applications for transfers, assignments or details be made through the chief, through official channels and in writing. These applications should show the action taken upon them and serve as a valuable aid to future commissioners and chiefs in acting upon requests for transfers and in distributing reports. In all cases either the approval or disapproval of such requests should be accompanied by the reasons prompting the action.

Battalion Chiefs.

For purposes of administration the city is divided into four fire districts, with a battalion chief in charge of each. The chiefs are responsible for the discipline maintained among the members of their commands and the efficiency of the force in the extinguishment of fires occurring within their district. Although they are held responsible for the conditions with regard to fire hazards within their respective districts, they are without power to enforce orders with relation to fire prevention. Their duty and authority ends with the filing of a report with the fire marshal upon conditions observed.

In company with the captains the battalion chiefs inspect the buildings in their districts.

Do Not Maintain Proper Records.

While they are required to conduct these inspections and supervise the companies within their districts, the battalion chiefs are not required to maintain any records which would aid them to determine the efficiency of their subordinates. Except that some of the battalion chiefs voluntarily keep on file copies of the reports upon inspections of buildings, their offices are without any systematized records of fire prevention inspections.

The battalion chiefs should be required by the rules to maintain adequate records not only of the activities of the companies and of fire prevention inspections, but also of the individual efficiency of the firemen under their command. They should also be required to report each month to the chief upon the condition of their respective fire houses, apparatus, and the amount and manner of instruction given their subordinates.

Battalion Chiefs Should Instruct Firemen.

In addition to the regular course of instruction furnished the fire-

men, which is fully described elsewhere in this report, battalion chiefs should be required to conduct company drills, lecture to the firemen within their districts upon important risks and large hazards, and to examine the firemen from time to time as to their knowledge of their duties. They should require the firemen to visit large buildings in the district, studying the methods which would be employed in the event of a fire, familiarizing themselves with the location of sprinkler connections and shut-offs, hatchways, weights upon floors, electric switches and gas connections, and all other matters with which they should be familiar. After these inspections the battalion chief should examine the firemen to determine the intelligence displayed by them in their inspection and study.

Morning Conference Should Be Abandoned.

Each morning the battalion chiefs confer with the chief at headquarters. This practice should be abandoned and conferences only held as occasion warrants. The practice of bringing the chiefs to headquarters takes them out of their districts for a period each day.

Too Many Captains.

The force is divided into thirty-three companies, to each of which are assigned a lieutenant and a captain. In many instances two companies are quartered in the same house and respond to practically the same stations, yet each of the companies is commanded by separate officers.

Even the water tower company, to which there are detailed but two firemen, has a captain and a lieutenant. This company is housed in the same building with two other companies. There is no necessity for having separate officers commanding companies which are housed in the same quarters and respond to the same alarms, nor is there any necessity for having officers detailed to the water tower company. Therefore, it is recommended that the number of captains be gradually reduced by not filling vacancies when they occur.

Company Drills Should Be Conducted During the Entire Year.

Company drills and apparatus drills are conducted only during the fine weather when it is possible to use the apparatus in the open air.

The captain should be required to conduct these drills and instruct the men under his command during all seasons of the year. When the weather is inclement drills should be conducted in the fire stations, taking the form of instruction in the handling of equipment, such as the coupling of hose, the making of Siamese connections, etc. Each

morning the captain should conduct "setting up exercises". A record should be kept of the time all drills are held, the character of the drills, and the names of the firemen present at them.

The Grade of Tillerman Should Be Abolished.

Each truck company, except one, has assigned to it a fireman with the title of tillerman, which position carries with it an additional salary of \$5 per month. All members of a truck company should receive instructions in the operation of the tiller and take turns in the handling of it when the apparatus is responding to alarms. It is recommended that the grade of tillerman be abolished and that no extra salary be allowed firemen assigned for this work.

Grade of Driver Should Be Abolished.

The drivers of the fire apparatus are selected as a result of a competitive civil service examination which differs from the examination conducted for appointment as fireman. Both the physical and mental standards are lower than the standards set for appointment as firemen, yet the drivers are eligible for promotion to all other ranks in the service. Under the civil service rules, because the drivers are in a different grade from the regular firemen, they cannot be used in the extinguishment of fires or for any other duty than the driving of the horses and the care of the stalls, horses and harness.

Frequently at the request of drivers the chief has transferred them to the uniformed rank, thus automatically changing their title from driver to fireman, although this practice is not permitted by the state civil service law. The local civil service commission has allowed these changes of title to occur because there was no increase in salary involved.

It is necessary for the drivers when in attendance at fires to remain with the apparatus so as to attend to the horses; thus it is not always possible to use their services in the extinguishment of fires.

Motor-driven apparatus when in attendance at fires does not need the constant attention of the chauffeurs; consequently they can be ordered to duty as firemen. All members of the bureau should be capable of driving and caring for the horses and the members of companies equipped with motor-driven apparatus should be correspondingly trained. The drivers and chauffeurs should be selected from among the firemen, being detailed by the chief, and the chief should be empowered to revoke such details whenever he deems it necessary. The civil service commission should abolish the grade

of driver, and those now in the service should be transferred to the fire force and their titles legally changed.

Engineers Ranked as Lieutenants.

The engineers of steamers are appointed as a result of a competitive civil service examination. They are paid \$1,200 a year, the same as the salary paid lieutenants, and they are eligible for promotion to the rank of captain. Service as engineer carries with it no opportunity for experience of a character which would fit them for commanding officers. Their duties comprise the care of their engines and the supply of steam for increasing the water pressure at fires. They are never in command of a company nor are they required to enter burning buildings or to direct operations at fires. Frequently their engines are located at points from which they are not even able to see the firemen in action. Nevertheless, according to the civil service regulations, they are allowed to compete upon the same basis as lieutenants in promotional examinations for the rank of captain. Not even is the engineer handicapped by reason of the lieutenants being allowed special weights because of their experience as commanding officers.

The result is that an engineer of a steamer in a suburban station, responding perhaps to not more than three or four alarms a month but having plenty of opportunity to study the theory of fire fighting, can obtain promotion to the rank of captain without having ever performed a single service in connection with the direction of firemen in action.

It is essential that the best fitted men in the bureau shall be selected as commanding officers, and none should be eligible for promotion to the rank of captain unless he has had practical experience in the art of fire fighting in a rank lower than captain. It is recommended that the civil service regulations be amended so as to make the engineers eligible only to promotion to the rank of lieutenant. The salary rate of the engineers should also be changed so as to be lower than that paid lieutenants.

Engineers in Need of Instruction.

The engineers receive instruction from the supervisor of engines, but the supervisor's work in connection with the construction of new apparatus and the repair of old apparatus is such that it prevents him from giving the amount of instruction necessary to make the engineers as efficient as they should be. Many of the engineers show a decided lack of knowledge concerning their work. Their need of additional training is apparent. To train engineers and stokers

properly, practical demonstrations are necessary. To conduct the demonstrations it is necessary to have the steamer under steam pressure. Because the bureau does not own an extra steamer and because objection has frequently been made to the operation of steamers in the neighborhoods wherein the fire stations are located, it is not possible for the supervisor of engines to conduct practical tests and demonstrations.

Method of Training Firemen.

The bureau employs a training instructor who conducts drills at a well equipped fire tower located in the rear of the quarters of engine company No. 13 on Genesee Street. When the weather permits, firemen are detailed to the school for instruction and are required to receive instruction in the handling of apparatus and equipment. For this purpose a city service truck is kept in reserve at the tower.

In addition to this the firemen receive instructions from time to time at their company quarters. While the training of the firemen may be said to be in accordance with progressive procedure they should receive additional instruction at the fire station, and the course of instruction at the school should be revised so as to include lectures in addition to the practical instruction given. This course should include lectures and instructions upon

1—Administration—

- a—Discipline (respect for authority).
- b—Records and reports.
- c—Responsibility for city property.
- d—Rules and regulations.

2—Science of fire extinguishment—

- a—General fire fighting.
- b—Care of apparatus and equipment.
- c—Auxiliary fire appliances.
- d—Sprinkler systems and stand pipes.
- e—The conservation of properties and burning buildings.
- f—Water pressure system.
- g—First aid to the injured.

3—Fire prevention—

- a—The fire prevention laws and ordinances.
- b—Methods of conducting and reporting upon fire prevention inspection.
- c—Combustibles and explosives.
- d—The duties of firemen in theatres and public assemblages.

Written Test Should Be Held.

Text books upon these subjects should be secured and furnished to the firemen and frequent written tests held in order to determine the familiarity of the firemen with their duties.

By these recommendations it is not meant that the present fire fighting force is not receiving training and instructions but rather to convey the thought of utilizing the many hours of idle time of firemen in such a manner as to improve their own condition and thereby make them more efficient in the performance of their duties.

No Efficiency Records.

The intelligence shown by the firemen in these written tests, their work at fires, their attention to the duties assigned to them at the fire stations and their willingness to perform extra service do not receive any departmental recognition through the use of efficiency records. The indifferent firemen, at promotional examination time, are placed on an equal footing with the diligent, alert firemen. The commissioner of public safety should require that efficiency records be installed and the work of the men reported upon each month. The ratings received by the firemen should be certified to the civil service commission and these ratings form the basis of judgment in making assignments and promotions.

Substitutes Receive No Training.

When regular members of the bureau are absent upon vacations or continued sick leave, substitutes, selected from the civil service eligible list, are given temporary employment at the rate of \$2 per day for every day they are employed. In some cases their employment covers an extended period. During their employment they are not allowed the same furloughs as the regularly appointed members. They are only allowed to have one day off in a month. During the vacation season and even during the winter months many substitutes are employed, but they are not given any course of instruction or special training to fit them for duty.

Provision should be made for the training of substitutes before they are assigned to duty, and inasmuch as they are paid a smaller salary than the regular firemen they should be given the same furloughs and work under precisely the same conditions. Because the force is undermanned the commissioner of public safety from time to time employs substitutes. It is no economy to use substitutes at a lower rate of salary rather than make provision for the appointment of additional firemen, because the substitute, being merely a

temporary employee, does not render the kind of enthusiastic service which is essential to efficiency, nor is it possible to give him in a limited time the amount of training necessary to make him as efficient as the regularly appointed firemen.

Hours of Service and Vacation Leaves.

The continuous service or single platoon system is in operation. The men are allowed one day off for each five days of service. One hour and a quarter is allowed for each of the three meals, and twelve days vacation each year.

It has been the practice of the firemen at vacation time to add to their twelve days' leave the "days off" which they would have been granted had they been working, thus making their vacations in most instances fourteen days. The commissioner should either make the vacation period fourteen days or not allow the firemen to include the two extra days in the vacation period.

UNIFORM AND EQUIPMENT.

The uniform and equipment in use by the firemen are in accordance with the modern, metropolitan firemen's uniform and equipment, and the men appeared neatly attired when in dress uniform and properly equipped when in service.

City Makes No Contribution Toward Cost of Uniform.

Except that the city supplies the firemen with the fire belts, it makes no contribution toward the cost of their uniform and equipment. A fireman entering the service at a salary of \$720 per year is required to expend during the first year of service, \$97.50 for uniform and equipment as follows:

Overcoat	\$32.00
Uniform	28.00
Extra pants	8.00
Cap	1.50
Rubber coat	6.00
Rubber boots	6.00
Fire hat	5.50
Bunking pants	2.50
Two blue shirts	7.00
Black tie	.50
Mittens	.50
\$97.50	

In order to insure uniformity of grade and color in the uniforms, all of the cloth is purchased by the firemen's association and sold to the

men at cost. They may select any tailor they choose for the making of the uniform.

Because of the character of the firemen's service and the amount of salary, the city should furnish uniforms and equipment without cost to the men, or at least it should provide for the furnishing of all such uniforms, etc., at the cost of production.

Provision should be made, in the event that the city is financially unable to defray the expense of these uniforms, to advance the cost and deduct an equal amount each month from the pay of the firemen.

SANITARY CONDITIONS OF FIRE HOUSES.

All of the fire houses were examined and found to be clean and orderly and for the most part in good condition. The condition of the building occupied by Engine Company No. 1 on Stone Street, however, which was built in 1870, was such as would point to the need of providing new quarters for this company. The dormitories are badly crowded and the building, while as clean and orderly as it could be in consideration of its age and sanitary condition, is difficult to keep clean and in habitable condition. The doors on the front of the building are poorly arranged and do not permit of a speedy delivery of the apparatus.

There is connected with this house a recently constructed two-story brick building occupied entirely by a battalion chief and his driver. If the city is financially unable to provide a new building for this company at least the alley-way between the engine company quarters and the new building should be enclosed and the second floor of both buildings connected so as to provide ample sleeping room for the firemen.

Old Headquarters Building Should Be Abandoned.

The buildings occupied by the repair shop, fire alarm division, Truck Company No. 1, Engine Company No. 14, and the protective company should be abandoned as soon as possible and each company moved to new quarters. The location of this building, situated as it is directly in front of the railroad yard at a point where most of the incoming and outgoing trains stop and start, is undesirable for use as a fire station. Not only is it difficult for the men to sleep in the dormitories because of the noise, but it is practically impossible to keep the building clean because of the dirt and dust which come from the railroad yard, particularly during the summer months. The congested condition of traffic on the street, the blind railroad wall immediately in front, and the street cars which pass the building make it difficult to deliver the apparatus in response to alarms.

The equipment of the fire alarm division which is housed in this building is necessarily composed of very sensitive instruments which must be kept absolutely free from dust and excessive moisture. It is recommended that new quarters be provided for all of these companies and that a more central location be selected. Part of the building could be retained in use for the repair shop and the hose depot.

With the exception of a few houses the fire stations are inadequately equipped with toilets and bathing facilities. But two of the houses have toilets on the same floor with the apparatus, and only a few are equipped with shower baths.

Not only as a convenience to the men but in the interest of efficient service, toilets should be installed on the apparatus floor in all of the fire stations, and the old-fashioned bath tub should be replaced by shower baths.

Truck Company No. 3 is housed in a building which was erected in 1884. Hose Company No. 12 occupies a building which was constructed in 1873 for use by volunteer fire companies. As soon as the finances of the city will permit new quarters should be provided for both of these companies.

While the general condition of the fire houses was found to be good, yet it was apparent that none of them was built in accordance with modern ideas of standardized construction of fire stations. It is, therefore, recommended that provision be made for the preparation of a plan of building which will serve as a standard for fire house construction.

In the preparation of these plans care should be taken to provide for living quarters for the firemen, which should include spacious dormitories with ample ventilation and light, a recreation room on the same floor with the apparatus, and adequate toilet and bathing facilities and drying rooms.

DISTRIBUTION OF THE FORCE AND APPARATUS.

Force Divided into Battalions.

For purposes of supervision and control, the force is divided into four battalions. Each battalion is subdivided into engine, truck and hose companies, as follows: sixteen engine companies, ten truck companies, six hose companies, one water tower company and one protective company.

These companies are housed in twenty-five fire stations. The following table shows the distribution of the force by companies, the location of their quarters and the assignment of apparatus.

CITY OF ROCHESTER

Co. No.	Location	Officers	Firemen	Least No. on Duty	Engine	Wagon	Hose Carried	Reserve Hose	Average Runs per Month
1	83 Stone street	2	10	7	1st size Met'n-La France	Plain R. F. D.	1,500	1,500	14
2	676 Clinton avenue north	2	9	6	"	Comb. R. F. D.	1,200	1,200	22
4	25 Ford street	2	9	6	"	Plain R. F. D.	1,200	1,200	15
5	262 Lyell avenue	2	8	6	"	Comb. Am.-LaFrance	1,000	1,000	10
6	785 University avenue	2	8	6	"	"	1,200	1,200	8
7	373 Plymouth avenue south	2	8	6	"	"	1,000	1,000	10
8	357 Gregory street	2	9	6	"	"	1,200	800	8
9	60 Parsells avenue	2	8	6	"	"	1,200	1,200	15
10	1 Driving Park avenue	2	8	6	"	"	1,200	1,200	7
13	109 Genesee street	2	8	6	"	"	1,200	1,200	8
14	Central avenue and Front street	2	9	6	1st size Met'n-La France	"	1,000	1,000	15
15	713 Monroe avenue	2	8	6	"	"	1,200	1,200	13
16	704 Hudson avenue	2	8	6	"	"	1,504	1,500	20
17	41 Stillson street	2	9	7	"	"	1,500	1,500	15
18	Child and Campbell streets	2	8	6	"	"	1,200	1,200	11
23	160 Exchange street	2	10	6	"	"	1,500	1,000	12

TRUCK COMPANIES.

Co. No.	Location	Officers	Firemen	Least No. on Duty	Type	Total Ft. Ladders	Aver. Runs per mo.
1	Central ave. (Near Mill st.).	2	11	6	75' Aerial Am-La France Quick- Raising Auto	324	14
2	41 Stillson st. (En- gine 17 House)..	2	10	6	75' Aerial Seagrave Quick-Rais- ing	328	15
3	260 Lyell ave.	2	8	6	65' Aerial Seagrave Quick-Rais- ing	285	9
4	Monroe ave. (With Engine 15)	2	8	5	55' Service	262	10
5	Genesee st. (with Engine 13)	2	8	6	55' Comb. Chem. & Ladder, R. F. D.	207	8
6	Hudson ave. (with Engine 16)	2	8	6	55' Service R. F. D.	265	20
7	1261 South ave.	2	8	6	55' Am-La France Service Comb. —Chem., Hose & Ladder....	194	2
8	Dewey & Bryan sts. (With Hose 20)..	2	8	6	55' Comb. Service.	272	2
9	Webster ave. (With Engine 9).	2	8	6	55' R. F. D. Comb. Service.	253	9
10	Exchange near Court (With Engine 23)	2	10	6	85' Aerial Seagrave Quick- Rais- ing Auto	323	10

HOSE COMPANIES

Co. No.	Locations	Officers	Firemen	Least No. on Duty	Type	Hose Carried	Reserve Hose	Average Runs per Mo.
3	37 Frank st.	2	7	4	Comb. Pope-Hartford Auto.	1,200	*	18
11	32 Fitzhugh st. . .	2	7	5	Comb. R. F. D.	1,200	*	9
12	35 St. Paul st. . .	2	8	6	Comb. R. F. D.	1,200	*	20
19	1740 East ave. . .	2	6	4	Comb. R. F. D.	1,200	1,200	½
20	Dewey & Bryan. . .	2	6	4	Comb. R. F. D.	1,200	1,200	4
21	Genesee & Barton. .	2	6	4	Comb. Amer-La France. . .	1,200	1,200	4

*At Hose Depot.

WATER TOWERS

Co. No.	Location	Officers	Firemen	Type	Height	Average Runs Per Mo.
1	Central avenue. . . .	2	2	Champion	65	14
Reserve	Mill street	.	.	"	65	..

SUPPLY WAGONS

Co. No.	Location	Number of Men	Type
1	Ford street	3	R. F. D. Construction.
2	Stillson street	2	R. F. D. Construction.

PROTECTIVE COMPANY

Location	Officers	Paid Firemen	Number Volunteers	Average No. Fires
Central avenue	3	3	100	9

The protective company is equipped with an automobile squad car which was built at the fire department shops at a cost of \$3,040.55.

It carries fifty-seven tarpaulins and two hand chemical extinguishers.

This company responds on one alarm to 127 boxes, serving as a salvage corps.

Need for the Appointment of Additional Firemen.

Of the 387 employees of the bureau there are 253 firemen, of which sixteen are assigned to duties other than fire extinguishment, thus leaving the actual fire fighting force 237.

The sixteen firemen detailed to duties outside of their company service are used as follows: ten to driving chiefs' cars, fuel wagons and the automobile of the commissioner of public safety and six to duty at the theaters.

Because of the number of men who must necessarily be excused from duty because of sickness, regular vacations, "days off," meals, and upon leave of absence without pay, at no time are these 237 firemen available for duty. Thus the force is so materially reduced in strength as to leave the bureau very much undermanned.

In view of the fact that within the last few years additional days off were granted the firemen, the actual strength of the force is less this year than before.

Many of the companies are from time to time, because of absence, reduced to four and five men.

The following table shows the strength of the force during the last ten years, the number of companies, the population and the total appropriation granted the department each year. This table shows that although the population of the city has increased in ten years from 181,666 to approximately 240,000, the number of firemen has only been increased from 151 in 1905 to 253 in 1915.

STATISTICS OF FORCE, POPULATION OF CITY, AND
ANNUAL APPROPRIATIONS.

Year.....	Population.....	Chief.....	Assistant Chief.....	Battalion Chiefs.....	Captains.....	Lieutenants.....	Engineers.....	Stokers.....	Tilermen.....	Hosemen, Laddermen, and Drivers.....	Engine Companies.....	Hose Companies.....	Truck Companies.....	Chemical Companies.....	Water Tower Companies..	Salvage Corps Companies...	Supply Wagons.....	Fire Stations.....	Other Employees.....	Appropriation.....
a 1905	181,666	1	1	2	21	21	11	10	5	141	10	4	5	1	1	1	2	17	15	\$318,800.00
* 1906	186,000	1	1	2	23	24	14	12	6	157	12	4	6	1	1	1	2	18	19	338,800.00
* 1907	194,000	1	1	2	24	24	16	16	6	163	14	3	5	0	1	1	2	18	23	365,276.82
* 1908	202,000	1	1	2	24	24	16	14	6	163	14	3	6	0	1	1	2	18	30	389,000.00
* 1909	210,000	1	1	2	24	24	16	14	6	163	14	3	6	0	1	1	2	18	33	415,570.53
b 1910	218,149	1	1	3	26	26	17	15	6	190	15	4	7	0	1	1	2	21	33	434,983.89
* 1911	223,000	1	1	3	27	27	17	15	6	194	15	4	7	0	1	1	2	21	33	444,596.92
* 1912	225,000	1	1	4	27	27	17	15	6	194	15	4	7	0	1	1	2	21	34	484,010.10
* 1913	232,000	1	1	4	30	30	17	15	8	214	15	5	9	0	1	1	2	23	34	503,797.67
* 1914	240,000	1	1	4	31	31	17	15	8	220	15	6	9	0	1	1	2	24	34	539,999.33
* 1915	240,000	1	1	4	33	33	18	16	9	237	16	6	10	0	1	1	2	25	35	541,460.00

* Estimated

a State census

b U. S. census

Therefore, it is recommended that, in order to provide adequate protection, sufficient firemen be appointed so that an average of twelve men will be assigned to each engine and ladder company within the fire limits.

Companies Well Distributed.

The apparatus and companies are well distributed and with the addition of motor-driven apparatus from time to time the present distribution should meet the needs of the city.

Need for Additional Steamer.

While no technical examination of the steamers was made, all of the apparatus was observed at the fire station and some in service at fires. The apparatus was found to be in good condition and the upkeep generally good. The bureau has no steamer in reserve, the result being that when any one of the steamers becomes defective and

in need of repair it must be taken out of commission and the bureau cannot replace it during the repair. The commissioner of public safety should endeavor to secure an appropriation for the purpose of a new second-sized steamer which can be used as a reserve engine and also for practical demonstrations in instructing the engineers and stokers.

Recruits Should Be Given Active Duty in All Parts of City.

When new appointments are made the recruits are assigned to companies in which there are vacancies. No provision is made for the changing of assignments so as to give new men active service in all parts of the city. It is recommended that the chief be empowered to reassign his force from time to time in order that all of the firemen may perform service in all parts of the city under all of the battalion chiefs and in all branches of the service. Under the present system a fireman assigned to a suburban station may remain in the service for many years without having opportunity to perform actual fire service in the congested value district. Thus, if he were transferred, after a few years of service, to a station in the down-town section it would almost be necessary to give him the same training as if he had just entered the service.

Likewise a fireman assigned to a hose company could go through the service without ever having performed service with a ladder company. This condition should not prevail, as in the interest of efficiency firemen should be given as broad a training as possible.

Bureau Conducts Repair Shop.

All repairs to apparatus and equipment belonging to the bureau are made at the repair shop, which is under the supervision of the supervisor of engines. The present incumbent of this position had for many years been in the employ of a large manufacturer of fire apparatus. He is especially well qualified for his position.

In addition to repair work, the employees of this division built and constructed all of the combination chemical wagons which have come into the service within the last few years. A number of the city service trucks were also built at the shop.

There are employed in the repair division, in addition to the supervisor, one blacksmith, one woodworker, one painter, and a skilled laborer. The woodworker and blacksmith were both previously engaged by a large manufacturer of fire apparatus and both are competent workmen. The organization and supervision of the repair

and construction work is worthy of commendation. The equipment of the shop represents an investment of only \$2,200.

As supervisor of engines the head of the repair shop is required to test all of the engines, instruct all of the engineers and stokers, and attend all two-alarm fires throughout the city and one-alarm fires in the congested value district. Because of the amount of repair work necessary and the new construction work performed at the shop, the amount of time which the supervisor is able to give to the instruction of the engineers is insufficient. The engineers for the most part are in need of training for heavy service. It is of supreme importance that engineers and stokers understand the duties imposed upon them because of the important part they play in fire extinguishing. Consequently every care should be taken to bring them to the highest stage of efficiency. It is vastly more important and in the end more economical to permit the supervisor of engines to devote more time to the training and testing of the engines than to the construction of new apparatus. The amount of money lost through inefficiency of engineers and stokers in the delivery of streams at fires could be far greater than any saving the city might effect by constructing its own fire apparatus.

Unit Cost Records Should Be Maintained.

The commissioner of public safety should require that unit cost records be maintained at the repair shop.

Central Reserve Stations Should Be Established.

The excellent condition of the street pavements in the city, the absence of narrow streets, and the general topography would permit of the trial of central reserve stations for firemen, and it is recommended that the chief experiment with this system in at least one battalion. The aim of the central reserve system is to reduce the number of officers and the number of firemen and yet have available for service sufficient men to meet the demand.

This system, which has not yet been tried in this country, is one which provides for the housing of the firemen for a given district in one central station and equipping this station with high powered motor squad cars. The apparatus in charge of drivers would remain in the fire stations already established and the firemen removed to a separate station and a sufficient number of them dispatched on alarms within the district to meet the needs.

The general outline of this plan was prepared for the New York fire department by one of its officers, John B. Keefe, who prepared and

published the suggested plan for New York. It is recommended that the commissioner of public safety secure from the New York department a copy of this plan and so far as possible experiment with it in one battalion of the Rochester bureau.

Additional Minor Equipment Recommended.

The purchase of the following minor equipment for use in the bureau is recommended: a hose roller for each ladder truck; at least two smoke helmets for use in locating cellar fires; surgical kits as a part of the equipment of trucks in the congested value districts; Siamese connections to be carried on each hose wagon; an oxy-acetylene burner for melting steel bars; hose jackets to be carried on all trucks, flare torches for use at night fires and at least one portable searchlight.

Except for absence of the minor equipment recommended above, the bureau is well equipped with auxiliary apparatus and minor equipment.

Need for Near-Side Car Stop Ordinance.

As an aid to the bureau in the speedy delivery of its apparatus it is recommended that the council adopt a near-side street car stop ordinance. The street railway at present does not follow any definite rule as to the stopping of its cars at intersecting streets.

The cooperation of the street railway company with the bureau of fire through the use of manual cut-outs on its lines near certain fire stations is to be commended. It is recommended, however, that additional red lights, operating on trips with the gong and timed so as to aid in the delivery of apparatus at points in the city where the street cars either pass the fire stations or cross the street near the station, be installed.

The city of Denver has an especially good system of lights, and it would be well for the commissioner of public safety to obtain from the officers of that city a detailed description with a view to installing a similar system in the city of Rochester.

Absence of Maps and Charts.

For the speedy delivery of apparatus and promptness in connecting with hydrants, it is necessary that the firemen and drivers be thoroughly familiar with the location of the fire alarm boxes, street hydrants and important risks in their respective districts. For this

purpose the fire stations should be equipped with proper maps and charts indicating thereon the location of fire alarm boxes, street hydrants, important risks, boundaries of one-alarm runs, and other information which would be of value to the firemen and drivers. Some of the houses are already equipped with a map showing the location of hydrants.

The firemen and drivers should be required to study the information contained on these maps and from time to time they should be examined as to their knowledge of the location of hydrants and fire alarm boxes, etc.

HOSE.

Hose is purchased for the bureau through the board of contract and supply. No standard specifications are used, and the hose is purchased on the specifications of the companies selected by the chief of the bureau. The price paid for the last purchase of hose was \$1 per foot. During the past ten years there was purchased 58,800 feet, or an average of 5,800 feet per year of fire hose, all of which, with the exception of about 18,000 feet, was of the same brand.

The following table shows the amount of hose purchased, the brand, and the price per foot paid during the past ten years:

									<i>Per Foot</i>
1905	6,000 ft.	Paragon, 2½ in.	hose,	Eureka Fire Hose Co.	.....				\$ .90
	100 "	Eureka	" "	" "	" "	" "	" "	" "	1.00
1906	6,000 "	Keystone	" "	" "	Fabric Fire Hose Co.	.....			.75
1907	12,000 "	" "	" "	" "	" "	" "	" "	" "	.75
1908	5,000 "	Paragon	" "	" "	Eureka Fire Hose Co.	.....			1.00
1909	12,100 "	" "	" "	" "	" "	" "	" "	" "	1.00
1910	5,000 "	" "	" "	" "	" "	" "	" "	" "	1.00
1911	None								
1912	5,000 ft.	" "	" "	" "	" "	" "	" "	" "	1.10
1913	2,500 "	" "	" "	" "	" "	" "	" "	" "	1.10
1914	5,000 "	" "	" "	" "	" "	" "	" "	" "	1.00
	100 "	Gibraltar	" "	" "	N. J. Car Spring Co.	.....			1.00

The Purchase of Hose on Standard Specifications Recommended.

It will readily be seen that the amount of hose purchased each year is sufficient to warrant the use of standard specifications which will provide for inviting and making it possible for all hose companies to bid for supplying hose to Rochester's bureau of fire.

The standard specifications should be drawn by disinterested experts and all hose manufacturers invited to bid. It is interesting to note in this connection that in the city of New York the most recent

purchase of hose was at the rate of fifty-one cents per foot, while, during the early part of the present year, the city paid but forty-nine cents per foot, and for a few years paid but fifty-six cents per foot. According to the officials of the department the hose purchased at these prices gave full satisfaction. The city of Washington, D. C., recently purchased 15,000 feet of fire hose at a little over fifty-four cents per foot.

In both these cities the hose was purchased upon standard specifications, which were prepared and passed upon by experts who declared that hose purchased under them would give entire satisfaction.

The delivery of hose in these cities is followed by a careful test and inspection to determine whether deliveries are in accordance with the specifications and the original sample. The hose purchased in Rochester, although subjected to a pressure test, is not tested for the quality of rubber through a laboratory test.

It is recommended that all hose be purchased as a result of public bidding upon standard specifications and that the sample submitted and parts of the deliveries be subjected to all of the tests required by the National Board of Underwriters.

Care of Hose.

All of the hose is cared for by the superintendent of hose who is a fireman detailed to this work. He is in charge of a hose depot, in which is stored all of the hose used by eleven hose companies. The quarters occupied by these eleven hose companies, to wit, 1, 3, 5, 6, 7, 8, 10, 11, 14, 17 and 23, are not equipped with either hose towers or racks for the drying of hose. The hose used by these companies at fires is delivered by the hose wagons to the hose depot where they are given clean hose in place of the wet hose. The superintendent and a fireman detailed to assist him clean and dry the hose, which is dried in the tower and then rolled on a reel.

All tests of hose are made by the two firemen detailed, who have the right to recommend as the result of their test that hose be condemned.

Condemned hose is sold to other city departments by the pound as junk. This procedure should be changed, so as to provide that the annual testing of the hose be under the supervision of a battalion chief, and that no hose be condemned except as the result of the battalion chief's certificate.

The records of hose delivered and stored at the tower consist

merely of an informal lead pencil entry in a book provided by the fireman detailed.

The chief should require that proper records be maintained as to the hose of the bureau, which records would show as to each: length, the date coming into service, the assignment, subsequent breaks in the hose, dates tested, results of test, date condemned, cause of condemnation and final disposition. This should be a card record and should be kept posted currently.

Hose Should Be Cared for by Companies.

The present practice of having hose wagons deliver wet hose to the hose tower after each fire requires that the wagons travel long distances and thus interferes with their prompt return to their quarters. It also has a tendency to lessen the care given the hose by the firemen at fires, since they have no direct responsibility for any set of hose by reason of its assignment for their use.

Therefore, it is recommended that drying racks be installed in all of the fire houses not having towers, and that the hose used by the companies be cleaned, dried and cared for by the members of each company.

For a speedy transfer of hose on reserve to the wagons it is recommended that metal boxes, open at both ends, of a size capable of fitting snugly in the hose wagons, be provided. The reserve hose should be laid out in these boxes and kept on a stand of the same height as the floor of the hose wagon. The top of this stand and the bottom of the hose wagon should be equipped with small wheels, thus permitting of the rolling of the box off the stand and into the wagon, which would facilitate the transfer and save considerable time at the end of each run.

Superintendent of Hose in Charge of Supplies.

A small storeroom is maintained at the hose depot in which are kept the ordinary supplies such as are issued to the fire companies monthly. All stores are delivered upon requisition, for which printed forms are used which must be approved by the chief of the bureau. While the superintendent of hose keeps an informal lead pencil record of supplies delivered to him in bulk, he does not maintain any record of the disposition of the supplies, nor does he keep any bin records which would furnish him any check or control over his supplies.

It is recommended that he be required to maintain proper records of the supplies and their disposition.

HORSES.

The department owns 125 horses, all of which appeared in good physical condition, properly housed, and well groomed and trained. They appeared in most cases to be well shod. Their stalls were clean and orderly and the lofts in which the forage was kept were found to be well ventilated and free from exposed wiring or other hazardous conditions. The forage appeared to be of good grade and under fair control.

All of the stalls in the fire houses are equipped with doors which operate on the gong by trips. It is recommended that, in constructing new houses and in repairing the older houses, the doors be removed and that ordinary chains operating on the trip be substituted. This provides for a better ventilation of the barn.

Superintendent of Horses Efficient.

The horses are under the supervision and care of a veterinary surgeon and a superintendent of horses. The bureau maintains a training stable and hospital at the quarters of Engine Company No. 10. This stable is well equipped both for the training and care of horses. Its management as well as the general good condition of the horses throughout the bureau indicated the efficiency of the superintendent of horses.

The average price paid for horses is \$275, and they are accepted only after a ten-day period of observation at the training stable. There are twelve horses kept in reserve.

No Records Maintained at the Training Stable.

No records are maintained at the training stable or hospital. It is important that the bureau have an accurate record of the horses in the service. This should be a card record which would include a complete history of each horse from the date of purchase, showing among other things, a complete record of each horse's illnesses.

Bureau Horseshoer.

The bureau employs permanently a horseshoer who is supplied with a portable forge and does all of the shoeing at the fire houses. This is in accordance with good practice.

The horseshoer makes a written report on a printed form of the work done at each company quarters, but this report does not contain the price of the materials used, thus making impossible the keeping of a proper unit-cost record. While he keeps a record of supplies requisi-

tioned by him, he does not record the disposition of these supplies. Since his materials, such as rubber pads and patented shoes, are not under lock and key, they are not protected against loss, and his records are such as to afford no control which would enable him to check the supplies.

The horseshoer should be required to report the actual time consumed and the cost of all material used by him on each job. His supplies should be kept under lock and key and a proper record maintained of their receipt and disposition.

RECORDS AND REPORTS.

The records and reports of the bureau of fire can be improved without additional clerical help and without much added cost except as to the initial expense of printing and installation.

The records and reports should include the following:

- 1—Daily company morning return.
- 2—Consolidated daily return.
- 3—Individual company fire service report.
- 4—Battalion chief's fire service report.
- 5—Burst hose report.
- 6—Fire service record book.
- 7—Company log book.
- 8—Card records of individual members of the force.
- 9—Card records containing a complete description of each building in the district, one card to be retained at the office of the battalion chief and one at each company's quarters.
- 10—Fire prevention inspection report.
- 11—Monthly report upon conditions of apparatus and equipment.
- 12—Individual efficiency records.
- 13—Records in connection with training school for firemen.
- 14—Record of firemen's delinquencies.
- 15—Record of complaints.
- 16—Record of places licensed to sell, store, or manufacture explosives or combustibles and persons licensed to transport the same.
- 17—A record and description of moving picture shows, theaters, and other places where large assemblages are permitted.
- 18—Daily reports by the firemen assigned to theaters.
- 19—Horse records.
- 20—Records of assignments and transfers.
- 21—Reports on fire drills in stations.
- 22—History and record of fire stations.
- 23—Hose records.

- 24—Record of apparatus.
- 25—Surgical records.
- 26—Running card.
- 27—Unit-cost records.
- 28—Annual report.

Daily Company Morning Return.

The captain should be required each morning to file a daily morning return concerning the activities of his company for the preceding twenty-four hours. This report should be forwarded to the battalion chief who should review it for accuracy and endorse and forward it to the office of the chief. The returns should be made upon a specially provided form with headings calling for the following information concerning the company:

- Each roll call for twenty-four hours.
- Names of absentees.
- Duration of absence.
- Cause of absence.
- Time consumed by firemen for meals.
- Time consumed at fire.
- Number of alarms responded to.
- Number of times horses were hitched.
- Time devoted to drills.
- Kind of drills.
- Details—name of firemen detailed and character of detail.
- Number and names of members of the command assigned to fire prevention inspection.
- Number of inspections made.
- Class of buildings inspected.
- Number of violations reported.
- Actual time consumed in inspection work.
- Remarks.

Under the heading "remarks" should be entered any unusual occurrence, such as injuries to or loss of property, charges preferred against members of the command, etc.

The rules should prescribe that any absence occurring during the day after the filing of this report be reported by telephone and recorded on the following morning's report.

Consolidated Daily Return.

Each morning by 10 o'clock the chief should have before him a detailed report concerning the activities of the entire force for the

preceding twenty-four hours and up to 9 a. m. of the current day. This report should be known as the consolidated daily return, which should be a recapitulation on one sheet of all of the information contained upon the daily company returns.

The report should show in addition to the information taken from the daily return the following:

Total number of alarms to date.

Total number of alarms to same date of preceding year.

Total number of alarms during entire preceding year, classified as to box, telephone and still.

Cause of alarms, as to fire, accidents, unnecessary, and false.

Number of fires to date.

Number of fires same date of preceding year.

Total number of fires of preceding year.

Total loss represented by fire to date.

Total loss represented by fire to same date of preceding year.

Strength of force at 9 A. M.

Officers.

Men.

One copy of this report should be forwarded to the commissioner of public safety. The report should be printed upon a form of convenient size for binding.

Individual Company Fire Service Report.

No company fire service report is made except that each company reports over the telephone when it returns from runs. It is recommended that each company be provided with printed forms to be known as company fire service reports and the captain required to prepare one of these reports upon return of the apparatus to the station. These reports should be upon cards so as to make a convenient record. The card should not exceed $5\frac{1}{2}$ by $8\frac{1}{2}$ inches, and should have among other headings the following:

Report of fire number during the year 19...

(The number of the fire should be written in at the office of the chief and not by the company.)

Engine company number Truck company number

Fire number Attended by this company during 19...

Date.

Day of week.

Report of fire at number Street.

Alarm received by telegraph telephone local.

Time alarm was received.

Time (if engine company) consumed in reaching and coupling to hydrant.

Time delayed.

Cause of delay.

The hydrant was found in condition and was used with pounds for hours minutes and with pounds of water pressure for hours minutes.

Number of gallons of water used.

Reported to and were ordered by

Number of minutes consumed in getting a stream on the fire.

Amount of delay, if any, and the reasons.

The pipe was taken to and stream was kept there hours and minutes, then taken to for hours and minutes, then taken to for hours and minutes.

The supply of water was

The company was out of quarters hours minutes.

The company was used at the fire hours and minutes.

The average pressure on line was pounds and the hose pressure was pounds feet of hose in the line nozzles inches.

Number of feet of ladder used.

Number of searchlights used (if a truck company).

On the reverse side of this report there should appear headings calling for remarks concerning the division's property lost, found, or destroyed, accident, etc. There should also appear a list of the officers and men of each company who did not appear at the fire and the reason for their absence. This report should be signed by the commanding officer of the company and forwarded to the assistant chief, who should review and sign it before forwarding it to the office of the chief.

Battalion Chief's Fire Service Report.

The present fire service report filed by battalion chiefs is adequate and in accordance with good practice, except that it fails to call for information concerning the quantity of water used at fire, the first company to arrive at the fire, and the time of its arrival, and the time the fire was signaled out.

This report should also contain the number of the alarm of the current year, the number of alarms received to the same date of the preceding year, and the number of fires occurring during the same period.

Copy of this report should be retained by the battalion chief, one copy retained by the bureau chief, and the original report forwarded to the commissioner of public safety.

The size of the form should be changed so as to permit of binding in loose-leaf binders.

Bursted Hose Report.

Special printed forms should be provided upon which to report bursted hose. The report should contain a detailed statement concerning the hose damaged, including the date the hose was purchased, the date it went into service, the location of the fire at which the break occurred, and, when possible, the cause of the break, whether increased pressure, burns, falling of heavy weights, run over by apparatus or street car, etc. This form should also be used for reporting upon hose destroyed in burning buildings.

The information contained on these reports should be posted on the card record of loss.

Fire Service Record Book.

The present record of fire service, while fairly complete in the information called for concerning fires, should have additional headings calling for the serial number of the alarm, the quantity of water used and the quantity of chemicals used, the type of construction of the building or buildings—as to whether fire-resisting, semi-fire-resisting, or non-fire-resisting, the names of the officers present at the fire or in command, and the exact time consumed by the company in the extinguishment of the fire.

Under the heading “remarks” is entered the method employed in putting out the fire and also the water pressure, but information concerning injury to persons or property, or the loss of life at fires, is not entered. It is recommended that at such time as a new book is provided, printed headings calling for the information described above be placed in the book, and that pending the printing of a new book all of the information described be entered under the heading “remarks.”

This record should contain a complete history of every fire and every alarm received and the response to it.

Company Log Book.

A company log book, which is called the journal, is maintained at each fire house. It is adequate except that it contains space for reporting but one fire in one day.

It is recommended that in reprinting the journal or log book, the record of fires be omitted in so far as the description of the fire and the service rendered is concerned since this information should be reported on the company fire service and filed chronologically in a loose-leaf binder. It is not necessary that the company log book be a printed record and it would be just as efficient and less costly if the operations of the company, outside of the fire service report, were recorded in a uniform record without printed headings.

Card Records of Individual Members of the Force.

A card record of the individual members of the force should be maintained at the offices of the commissioner of public safety, the chief of the bureau, the battalion chiefs, and also at the fire station.

The records at the battalion chiefs' offices should include only the cards of the members of their commands, and the records at the fire stations should likewise include only the cards of the men assigned to the station.

These card records should have printed headings calling for a complete history of each member. They should include among other things the following:

- Full name.
- Age.
- Date of birth.
- Place of birth.
- Residence.
- Married or single.
- Number of children, if any.
- Ages of children.
- Date of appointment.
- Residence telephone, if any.
- Date of first assignment to duty.
- Place and title of assignment.
- Special details.
- Record of delinquencies.
- Record of meritorious acts performed .
- Promotions.
- Efficiency ratings, month by month.
- Number of days absent due to:
 - Sick leave,
 - Without pay,
 - Special leave with pay,
 - Vacation,
 - Suspension.

When a fireman is appointed, four copies of this card should be prepared, one to be filed alphabetically in the office of the commissioner, one filed alphabetically in the office of the chief, one in the office of the battalion chief of the district to which the fireman is assigned, and the last card should be handed by the fireman himself to the captain of the company to which he is assigned. This last card should travel with the fireman to each station where he performs duty. It should be kept posted to date and filed alphabetically.

Card Records Containing Complete Descriptions of Buildings.

With the exception of the reports of fire prevention inspection, which are filed without regard to location and in such a manner as to be of little value as a ready reference guide, the bureau has no descriptive data as to all of the buildings in the city. No record in connection with fire fighting is more important than a comprehensive record of the interior of the structure which the firemen may be called upon to protect. Each battalion chief should be required to maintain a card containing an accurate description of all the buildings in his district. These cards should show concerning the building, in detail, the location of standpipes, sprinkler shut-offs, tanks, hatchways, elevators, boiler rooms, electric light and other switches, gas connections in mains, as well as the weight and character of material upon each floor. There should also be a sketch of the building, with its exits, fire escapes, and floors accurately shown.

When such cards have been prepared, the battalion chief should be required to cause copies to be made and kept at the fire stations. The captain should insist that the firemen familiarize themselves with the information on the cards, and should conduct frequent examinations to determine whether the firemen have studied them. They should be used in connection with the lectures and tests suggested elsewhere in this report.

Fire Prevention Inspection Report.

The form used for reporting inspections of buildings, except that it would be more desirable to use cards, may be said to be good. It is recommended that a card be substituted and that the rules require the placing of a sketch of a floor plan on each card. The card would be found convenient for use in the field.

Monthly Reports Upon Conditions of Apparatus and Equipment.

Each month the chief should require that captains file a report as to the condition of the apparatus and property under their charge. As

to the steamers, the supervisor of engines should be required to file a separate report, setting forth the number and kinds of tests of steamers conducted by him, with the results of the tests shown. This report should also contain recommendations for improving the condition of the steamers.

Individual Efficiency Records.

Promotions are at present made only as the result of competitive civil service written tests, and only the negative record, namely the record of the fireman's delinquencies, is considered by the civil service commission. Thus, while mishaps and misconduct serve to lessen a firemen's chance of promotion, his faithful, diligent service or extraordinary efforts do not result in giving him any advantage in promotion tests. Therefore, in order that the practical fireman whose continuous service has been faithful and efficient shall be selected as the commanding officer of the bureau rather than the fireman who is merely a close student and who specializes in the theory of fire fighting, the installation of efficiency records is recommended.

It is frequently argued that it is especially difficult to give efficiency ratings to fireman except as based on their work at fires, and that such a system as is recommended would not be equitable inasmuch as some companies respond to more alarms than others. Despite this contention, however, equitable efficiency ratings can be given firemen regardless of the number of alarms to which they respond, and their work at fires need only represent a part of the activities upon which they should be rated. That the fireman who is assigned to the company which is most frequently in service will have opportunity to secure higher ratings for practical service than the fireman assigned to the company in the suburban district is true, and this is as it should be, since the experience gained by the firemen in the busy congested value district house better fits him for the duties of a commanding officer. But if the chief transfers the firemen from one section of the city to another from time to time in order that all may have opportunity at active service, this will not work an injustice.

The firemen's efficiency should be determined by other factors as well as by fire fighting. Thus, in awarding efficiency ratings, consideration should be given to the following:

Punctuality in reporting for duty, in responding to alarms, in reporting for meals and in performing duties assigned to him at the station.

General appearance at all times.

Proficiency in report writing.

Proficiency in drill.

General discipline about the fire house.

Willingness to perform extra service.

Intelligence in fire prevention inspections.

Eagerness to learn the most improved methods of fire fighting by reading current publications, by studying the card descriptions of the property in the districts, by becoming familiar with the location of fire hydrants, alarm boxes, etc.

Efficiency in fire fighting and in the handling of apparatus.

To determine the efficiency of the firemen in the matters referred to above, with the exception of their work at fires, each captain should conduct frequent tests. He should continuously observe the conduct of the men about the fire house. He should encourage his men to read current publications upon fire fighting and to study improved methods of fire fighting. Many hours of leisure time now occupied by the firemen in card playing, shawl making, and similar activities could be devoted with advantage to study. If this plan were carried out the problem which confronts most fire chiefs as to what to do with the leisure time of firemen could be easily solved, and solved in the interest of efficiency. Indeed, the captain should be required to lecture to the men of his command a certain number of hours each week, and to examine them upon the subjects of his lectures.

Efficiency records would also provide a means of disciplining the members of the force for minor infractions of the rules which would not warrant the placing of the firemen upon trial. Indications of stubbornness not amounting to insubordination would serve to reduce the fireman's rating for the month. Thus, in addition to maintaining a proper record of the working of the force, the efficiency record would serve as a disciplinary aid.

Records in Connection With Training School for Firemen.

The officer in charge of the training school for firemen should be required to maintain complete and detailed records of the attendance, punctuality, appearance, attention to discipline, spelling, and answers to all questions in class, as well as ability to master special subjects on the practical side of the work, such as the handling of apparatus, ladder climbing, and general information as to the methods of fire fighting.

A monthly report based upon the ratings given by the instructor should be furnished to the chief and the commissioner of public safety.

These reports should be used to determine the fitness of the firemen for duty.

Record of Firemen's Delinquencies.

The record of delinquencies of members of the force should be entered upon their personnel card. All of the papers and documents in each case should be filed in the individual personnel folder. For the purposes of speedy reference and tabulation, a small book alphabetically indexed should be maintained for keeping the records of firemen's delinquencies.

Record of Complaints.

Inasmuch as it is recommended elsewhere in this report that the chief be designated as the executive officer of the fire prevention commission, it is essential that he maintain proper records of citizens' complaints, violations reported, and the results of prosecutions brought. For this purpose it is recommended that the chief maintain a record of complaints in which should be kept a record of every complaint received, whether written or oral, requiring the attention of the bureau of fire. This should include every violation discovered by members of the force and the report of the investigation of the complaint, as well as the action taken thereon. The book should be indexed by name, also by subject complained of, so that it would be possible to tabulate, without referring to original correspondence files, complaints received and the action taken upon them.

Record of Places Licensed to Handle Combustibles.

No record is of greater importance to the officers of the fire bureau than a complete record of the places where inflammables, explosives, and combustibles are handled and stored, consequently, it is of importance that the bureau of fire and its officers maintain a complete list of all places licensed to sell, manufacture, store, or use combustibles, explosives, or inflammables. Not only should they maintain these records, but the location of these places should also be well known to the officials of the bureau, since they create a specially hazardous condition.

For this purpose the chief should establish a card record of all such places.

A Record of Moving Picture Shows and Theatres.

Inasmuch as moving picture shows and theatres are of an extra

hazardous nature, because of the possibility of injury to life and limb through panic even though a fire may of itself do little or no damage, it is important that such places have continued attention through inspection and observation of the officers of the bureau of fire.

In order that the officers of the fire bureau may have complete knowledge of these places, it is recommended that the chief establish a complete card record of all theatres, moving picture show houses, and other places where large assemblages of people attend.

The information contained upon these records should be detailed in its descriptions of the exits, fire fighting appliances, and all other matters of which the firemen should have an intimate knowledge. There should also be in the office of the chief complete floor plans of the building, upon which should be plainly indicated the position of each stairway, lobby, corridor, passage or hall, and exit doors, including the basement from the street front to the extreme rear portion, the open courts and exits therefrom, the position of every water and gas pipe and every electric wire as far as possible, and the position of every water main, standpipe, or hydrant and of every line of sprinkler pipe, with the lines connecting each separate system of piping and electric wires indicated so as to be clearly distinguishable. An index of such lines should be given on each plan. The plans should be made on tracing linen and drawn to a scale of not less than eight feet to the inch. The adoption of an ordinance compelling the filing of such plans is recommended.

Daily Reports by Firemen Assigned to Theatres.

The present card record of inspections of theatres by firemen on duty during performances is adequate and should be continued.

Hose Records.

A separate card of hose purchased should be maintained. This record should show the date of the purchase, the brand, size and from whom purchased, price paid, and to which company assigned. Records of breaks or destruction of hose should be entered on this card, which should also contain a record of condemnation and sale of hose and serve as a life history of each consignment of hose purchased. From this record, it should be possible to tabulate the number of bursted hose, the amount of hose destroyed, the amount condemned, the average price paid, the average life of hose, and any other information concerning this most important part of the equipment.

Record of Apparatus.

A record similar to that suggested for recording the life of hose should also be maintained for recording the history of apparatus and equipment. On this card should be kept a complete history of all apparatus and equipment purchased. It should show the date of purchase, the price paid, from whom purchased, a complete description of the apparatus, the company to which assigned, a record of subsequent repairs with the cost thereof, by whom made, length of time out of service for repairs, and all other information which would enable the establishment of unit costs of equipment and the maintenance thereof.

Surgical Records.

The records which should be maintained by the surgeon and the character of the reports which he should make to the commissioner of public safety are fully described in the section of this report discussing the surgical division.

Running Card.

The running card of the bureau is well arranged and each company is supplied with a copy. It is a bound book. At such time as a new running card is prepared, it should be either a card record or printed on loose leaves so as to permit of making changes from time to time without the necessity of reprinting the whole book.

Unit Cost Records.

While the records with regard to the business management of the bureau of fire are for the most part satisfactory, it is, nevertheless, a fact that from the records as now maintained it would be difficult to establish unit costs of repair and construction work.

The establishment of proper unit cost records is recommended.

Annual Report.

If the records suggested above are efficiently maintained, it will be possible to issue a comprehensive annual report which will be of administrative value. The issuance of such a report is recommended. It is essential that the annual report contain a comprehensive financial statement which will show in tabular form the unit cost of furnishing fire protection, the per capita fire loss, the moneys appropriated for the bureau, and disbursements on account of salaries, repairs, supplies, equipment, maintenance of horses and apparatus, etc., year by

year, for a period of five years. No table in this report should fail to show a comparison with previous years.

A section of the report should be devoted to the force, in which should appear among other statements tables showing the number of:

Appointments.

Transfers.

Promotions.

Retirements.

Deaths.

Dismissals.

Trials upon charges and dispositions.

Reinstatements.

Days lost by firemen due to illness.

Prevailing causes of illness.

Days lost by firemen due to injuries received in the performances of duty.

Commendations awarded to firemen.

Sanitary condition of the fire houses.

The report should show in tabular form complete statistics of fires, including the number of fires confined to the points of starting, confined to the building, extending to other buildings, extinguished without engine stream, extinguished with one stream, two streams, three streams, etc., extinguished by chemicals, and as much detailed information concerning the method of extinguishing as possible. There should also be a table showing the number of fires month by month between the hours of 6 a. m. and 6 p. m. and 6 p. m. and 6 a. m. The number of fire prevention inspections, month by month, and the result of such inspections as to orders issued, violations found, orders complied with, prosecutions brought, fines collected, and conditions remedied, should be shown in another table. The character of buildings in which fires occur, classified as to tenement, flat, dwelling, factory, loft building, freight depot, subclassified as to stories of buildings and type of construction, to wit: brick, frame, steel, fire-resisting, semi-fire-resisting, should be indicated. The character of the business conducted in the part of the buildings in which fires occur should be shown in this table, care being taken to indicate any hazardous condition in connection with the business occupying the premises in which the fire occurred. For example, if the business be a grocery store, whether the store had a kerosene oil tank, should be indicated. The probable

causes of the fires should be reported. In describing the methods used in fighting the fires, the actual number of men engaged in each of the fires should be shown. Fires in which the loss is high should be described in detail as should also any loss which is the result of delay, care being taken to report accurately and honestly upon the cause of the delay, such as bursting hose, lack of water pressure, defective hydrants, etc.

POLICE AND FIREMEN'S PENSION FUNDS.

Benefit to Service Only Justification of Pension Expense.

Assuming that the city pays adequate wages for services performed by its policemen and firemen, any additional expense of the city in the form of pensions cannot be justified unless such expense is based on the principle of benefit to the service.

The present examination into the operation of the Rochester police and firemen's pension plan makes it evident that it has been established without a clear understanding of the principles involved. The result is that pensions as at present constituted are to the disadvantage of the service. For the furtherance of negative results, the city has unknowingly involved itself in heavy liabilities, the liquidation of which, when they become payable in rapidly growing amounts, will present a source of dissatisfaction to the taxpayer and possible disappointment to the beneficiaries.

Present System Discourages Loyalty to City's Interests.

The entrance regulations prescribing age limits of 21 to 30 years for firemen and policemen make it possible for healthy men 41 years old to retire on half pay after a service of 20 years.

Most of such men will have reached the highest point of efficiency and usefulness. Since the main purpose of a pension plan is to retain capable men in active service, the present method is radically wrong. It seems to be based solely upon the idea that men who have loyally given their services to the city for a long period of years should be properly rewarded by a pension.

No doubt recognition for long and continuous service should be made and if the city wishes to have an efficient force it is to its interest to do so. At the same time, the fact that a man has been loyal to the city's service for 20 consecutive years should not prevent the city from encouraging him to remain loyal and to continue in the service until he becomes incapacitated on account of advanced age.

The Longer the Service, the Smaller the Reward.

Firemen as well as policemen in the majority of instances avail themselves of their pension rights at first opportunity. This is illustrated by the fact that the majority of pensioned firemen have retired after an average service of 21 years and the majority of pensioned policemen after an average service of 24 years.* This is not

*See statement on pages 238 and 243.

surprising, in view of the fact that there are no features in the present pension plan which would encourage the men to continue in the service. Additional service does not entitle them to more pension, and a man who continues in the department after complying with the retirement requirements loses financially. Assuming that a pension of one-half final salary is given to a healthy man of 41 years and to one who is 60 years old, the former has the advantage not only of more pension payments, but also of having the possibility of adding to his income through private employment.

Present System Encourages Retention of Incompetents.

Inefficient and incompetent men, if discharged before complying with the legal retirement requirements, are not entitled to the return of their contributions. Although the department has definite rules for the discharge of its employees, such rules are difficult to enforce when they result in seeming injustice. The longer incompetents have served in the department, the more difficulty will their superior officers find in bringing about their discharge, since discharge would mean not only loss of position, but also forfeiture of the theoretically earned portion of the future pension.

Disability Provisions Vague and Illogical.

Firemen and policemen are pensioned for life when found "disabled for the performance of duty."

With such indefiniteness of statement it may be assumed that an employee is only disabled when his disease or injury seriously and unquestionably interferes with the performance of his everyday duties, and that his disability will continue as long as he lives. On the other hand, it is possible to assume that the health and physical condition of an employee should be at all times of the same high standard as is prescribed by the entrance regulations at the date of appointment. It is easy to foresee that a strict and uniform application of the latter suggested rule would, within a short time, place every member of the force in retirement. It may be held that any trivial impairment, which would hardly be noticed in private life, would incapacitate the person examined for "the performance of duty" and for this reason make his retirement on a disability pension desirable.

It is this indefiniteness which results in the growing proportion of employees retiring on the ground of disability rather than because of length of service and superannuation. In long established police

and fire pension funds the number of disability pensions greatly exceeds that of service pensions. The Rochester pension funds have been in existence comparatively a short time, yet the pension list of the fire department contains twenty disability pensioners against twenty-three retired on the ground of service. In the police department there are seven disability and twenty-three service pensioners.

Discretionary Scale of Disability

Benefits for Early Retirement Inequitable.

The pensions of those disabled after 15 and less than 20 years' service are determined in the discretion of the commissioner of public safety within the limits of \$250 to \$500. This is inequitable since the policy of each changing administration may change and result in different interpretation of this provision.

Lack of Physical Re-examination of Disability Pensioners.

That in a great number of instances illness appearing to be of permanent nature may be entirely cured has been time and again demonstrated. The lack of physical re-examination of disability pensioners permits those whose disability has disappeared to continue to draw their pensions, which is an entirely unwarranted expense to the city.

Dependents Pensioned on Basis of Charity.

The dependents of policemen and firemen killed or dying while in active service, and of deceased pensioners, are granted pensions. No attempt has been made to correlate the amount of such pensions to the value of the employee's services to the city. Furthermore, all pensions are granted in the discretion of the administration. Two evils arise as a result of exercise of such discretion. In the first place, the pension becomes a charity, and, secondly, there is no security in an income which may be revoked at will. In addition, the cost of pensions to dependents, especially to widows, is rather high.

It was evidently not realized at the inception of the present plan that the benefits to dependents require a much greater outlay on the part of the city than the pensions to the members themselves. In this connection attention is called to the present distribution of pension benefits in both funds:

Firemen's Pension Fund.

Total pensioners.	64	Drawing annually	\$28,630.00	Estimated total cost	\$277,368
Pensioned employees. . . .	43	“ “	22,800.00	“ “ “	192,810
Widows and children. . . .	21	“ “	5,830.00	“ “ “	84,558

Police Pension Fund.

Total pensioners. . . .	72	Drawing annually	\$26,531.68	Estimated total cost	\$278,285
Pensioned employees	30	" "	15,985.00	" " "	125,004
Widows and children	42	" "	10,546.68	" " "	153,281

While the amount of the annual pension charge to dependents is at the present time somewhat smaller than the annual benefits to pensioned employees, the ultimate cost of pensions to dependents will greatly exceed the amounts that will be paid to former employees.

BOTH FUNDS UNSOUND FINANCIALLY.**No Justification for Insufficient Income.**

The rules of both pension funds provide that in case at any time the income is insufficient to pay existing pensions in full, such pensions are to be reduced on a uniform scale until "funds are so replenished as to warrant payment in full."

This provision seems hardly equitable. It is unnecessary if proper actuarial investigation has preceded the establishment of the pension system. It is the business of the framers of a pension system to know how much it will cost, and to adjust its benefits to its income. Unforeseen contingencies may require a change of rules for future beneficiaries, but a pension once granted should be the most sacred of obligations, for the recipient is helpless. To contemplate a rescaling of granted pensions would seem to be a confession of either ignorance or carelessness.

Impending Bankruptcy Due to Lack of Foresight.

The present condition of the funds unfortunately indicates the necessity of rescaling pensions in the not very distant future. On pages 237 and 242 of this section tables are given showing the comparative receipts and disbursements of the firemen's and policemen's pension funds for the years 1907 to 1914. Attention is called to the fact that the annual demands for pensions have exceeded the income of the firemen's pension fund since 1909. The police pension fund, although showing annually a surplus, is on the decline, as the amount of such annual surplus shows a tendency to decrease from year to year.

The future experience is easy to foresee. The growth of the pension roll is inevitable, as it is based on natural law. For a long period of years to come more pensions will be granted than will terminate on account of death of present pensioners. The larger part of the income being stationary, the disbursements will keep marching

ahead of them until the accumulations of the funds in past years have been exhausted.

The unsatisfactory condition of both funds is entirely due to lack of foresight at the time of their establishment. The matter of adjustment of income to proposed benefits, or vice versa, is by no means difficult. All that is needed is the employment of a competent actuary to make the necessary calculations. The details of such calculations may be confusing to the layman. The fundamental principles, however, are easy to grasp. The following analysis of the condition of the funds in question is presented, therefore, as an illustration, and the conclusions are of necessity only rough estimates.

Two Methods of Meeting Cost of Pensions.

- 1—The “cash disbursement” plan—This plan requires only that the pension payments be currently provided for as they mature.
- 2—The “reserve” plan—Under this plan the amounts necessary to be set aside during the active service of employees to provide for their pensions when they retire are accumulated at interest and form a reserve fund out of which the pension disbursements may be made as they become due.

The main distinction between the two plans is that in the first the interest factor is disregarded, making its apparent cost to the city or the ones who must provide the funds about twice as much as the latter (“reserve”) plan. Under both plans an actuarial valuation or appraisalment of the fund requirements should be made to enable officers to set aside the proper “reserve for investment” on the one hand, or to determine the future encumbrances on the city’s taxables on the other; for the cash disbursement plan operates as an encumbrance on the future revenues of the city unless some other method is provided for fund revenues.

Cost of Pensions Under Cash Disbursement Plan.

The cost of pensions to firemen and policemen are estimated for the purpose of illustration under the following assumptions:

Average entrance age	27 years
Average retirement age	49 years
Average annual pension	\$530
Average active service	22 years
*Average expectation of life after retirement at age 49...	16 years

* As determined in the case of New York policemen. If the American experience mortality table were to be used, the expectation of life at age 49 would be 21.63 years and correspondingly increase the estimated cost of the pension.

Under the foregoing assumptions, each pension involves the total payment of ($\$530 \times 16$)—\$8,480.

If the total of these pensions payments were to be uniformly distributed over the 22-year period of the average member's active service, the sum of \$385.50 would represent the annual pro rata of pension, or about 34 per cent. of a fireman's or policeman's average pay of \$1,125 per annum.

Unsavoury Condition of Funds When Estimated on the Theory of a "Cash Disbursement" Plan.

When a pension plan is operated on the "cash disbursement" plan the pension demands are small in the beginning. They constantly increase, however, for more pensioners are put on the roll than are dropped on account of death. If it were assumed that the quota of the men and salary rates as well as the pension conditions were to remain unchanged, the annual demands of the fund would gradually become normal and eventually form a certain uniform percentage of the salary roll. If every fireman and policeman who entered the service were to retire under indicated assumptions, then the annual pension payments, which at present are only 7 per cent. of the annual salary roll of firemen and 6.6 per cent. of that of policemen, would grow in the course of the next 30 to 35 years (when the financial load on the fund would be approximately normal) to form about 34 per cent. of the respective payrolls.

The above rough estimate is made under assumptions which were necessitated through lack of any available data as to actual entrance and retirement ages, actual mortality experience, etc. It does not take into consideration:

- a—That the employees' pensions are continued at a reduced rate to widows and children after the death of a pensioner.
- b—That the dependents of either a fireman or policeman, deceased while in active service, are allowed a pension for life.

The above and other causes would tend to increase the pension cost per active employee. On the other hand, a number of employees will leave or be dismissed from the service without receiving pensions. The gain to the fund from the resulting forfeitures in all probability will not more than offset the extra cost of "dependent" pensions. It would, therefore, be conservative to state that the annual pension demands will increase at an accelerated rate until they will form:

- a—34 per cent. of the annual salary roll of the firemen, or about \$127,472, instead of the 7 per cent., or \$25,402.35 in 1913.
- b—34 per cent. of the annual salary roll of the policemen, or about \$135,345, instead of the present 6.6 per cent. or \$25,792.82.

In other words, the members will continue to pay 2 per cent. of their salaries, while the city will be expected to furnish the remaining 32 per cent. annually to pay current pensions. That the city will call a halt at some future time and refuse to continue the scheme seems probable.

Cost of Pensions Under "Reserve" Plan.

Using the same assumptions as in the case of the "cash disbursement" theory and applying the interest factor of 4 per cent., compounded annually, * there should be on hand for each retiring employee at the date of retirement \$6,175, which amount if invested at 4 per cent. interest will be sufficient to pay \$53 annually for 16 years, or a total of \$8,480.

Contributions Required Annually Under "Reserve" Plan.

In order to accumulate during the period of active service the necessary reserve of \$6,175 for the average employee, out of which his pension may be paid during the period of retirement, there should be set aside each year and invested at 4 per cent. interest, compounded annually, \$173 per annum per employee or about 15 per cent. of his assumed average salary of \$1,125.

Firemen's Fund Insolvent When

Estimated on Theory of "Reserve" Plan.

As stated before, the income of the firemen's fund should be about 15 per cent. of the annual payroll.

The receipts in 1913, excluding the interest on invested surplus, amounted to \$21,825.31, or 6 per cent. of the payroll (\$364,140).

The present income of the fund, therefore, is entirely inadequate for the accumulation of reserves which would be sufficient to pay future pensions. In order to be "deficit-proof," it should form about 15 per cent. of the payroll, or approximately \$54,621 annually.

Such annual income, however, should be invested at interest and held in reserve in order to pay pensions to the employees in whose behalf the accounts were accumulated. It is evident, therefore, that it should not be encroached upon to meet the current payments on pensions heretofore granted. Neither should it be used to cover the shortage resulting from insufficient contributions made in the past

*Attention is called to the fact that in the calculation of annuities involving the interest factor, "expectation of life," is not used as a basis. For the purpose of this estimate, however, which is intended merely to give an idea of the accumulating power of the interest factor, the use of the already available "expectation of life" figures is deemed appropriate.

in behalf of the present employees. There should be a separate reserve fund available for the purpose of meeting accrued liabilities.

The "reserve" fund on January 1, 1915, amounted to \$43,201.31, which is entirely insufficient to guarantee payment even to the present pensioners, of whom alone there are now 64 on the roll. The greater proportion of the annual receipts of the fund, which should have been set aside during the past years of active service of the present employees, has been used in paying pensions to those retiring in the past.

In the absence of more accurate data and merely to definitize the previous argument with regard to the financial condition of the fund, it is assumed that all conditions regulating the cost of benefits of the firemen's pension fund are equal to those of the police pension fund in New York. * On the basis of this assumption, a tentative valuation balance sheet has been set up and presented on page 239.

As will be seen from this balance sheet, the total amount needed to be on hand at the present time, which, if invested at 4 per cent. interest, compounded annually, will be sufficient to pay pensions to the existing 64 pensioners and to the present members and their dependents upon retirements, is estimated at \$1,495,355.

As an offset against this liability, the balance sheet shows only \$43,201 of funds on hand and that the present value of future contributions of the present force amounts only to \$77,596. Deducting the total of these assets, \$120,797, from the total estimated liabilities of \$1,495,355, there remains a deficiency of \$1,374,558, which is the discounted amount of future contributions of the city for pensions under the plan to those now on the pension and active service rolls.

This does not include any provision for additions to be made to the present active force. If the fund continues to operate on the present plan, the employment of each new member will result in an increase of the above estimated deficiency, since, as has been shown before, the amounts set aside each year are insufficient to build up adequate reserves for future pensions.

The "Reserve" of the Police Pension Fund Insufficient Even for Present Pensioners Alone.

Following the same line of argument as in the case of the firemen's pension fund, the shortage in the police pension fund may be estimated at \$1,215,188. (See tentative valuation balance sheet on page 244 of this section).

* As a matter of fact, the benefits of the New York police pension fund, although almost identical in most details, are less liberal, and therefore the present estimates arrived at by comparison result in an underestimate of liabilities.

Significant is the fact the funds in hand, or \$208,872, are insufficient to guarantee future payments to present pensioners alone, which, if discounted at 4 per cent, compounded annually, represent a capital sum of \$278,285.

The income of the police pension fund should be about 15 per cent of the annual payroll, the same as the case of the firemen's pension fund. Instead, the receipts in 1914, excluding the interest on invested capital, amounted to \$31,876.56, or only 8 per cent. of the payroll, (\$398,074.50).

In other words, with each year of the operation of the fund, its condition grows worse because of the insufficiency of annual contributions, and the problem of its reorganization on a sound basis is therefore constantly rendered more difficult.

IMMEDIATE REORGANIZATION ESSENTIAL.

Future Disappointment Should Be Avoided.

The main defects of the present pension system, as discussed in the preceding pages, point out the danger of continuing the funds on the present basis. Without proving the material benefit to the service, the pension provisions are so costly that in the not distant future the burden on the taxpayer will become excessive and the continuation of the payment of benefits even to those who are unquestionably entitled to them would be jeopardized.

The longer the readjustment is postponed, the more difficult it will be to save the beneficiaries and employees from disappointment and to secure for the city the benefits of a logically and soundly constructed pension system.

As a rule, only when the last dollar of the fund is gone and the annual demands begin to grow out of proportion to what even the easy-going taxpayer is willing to consider as a fair contribution, does the awakening come and actuarial advice is thought of.

Attention is called to the experience of such funds as the Philadelphia police fund, the fund of the Virginia and San Francisco school teachers and others, where it became necessary to reduce pensions already granted and to make the annual receipts cover current obligations.

Present Provisions Should Be Changed to Benefit Service.

There are two distinct phases to be considered in the establishment of a satisfactory system. One has to deal with the purposes to be achieved; the other requires that the plan be financially sound.

A fair pension plan, and one which would probably require half

the present outlay, can be devised. Strict adherence to fundamental principles involved and limitation of benefits only to those who have a proper claim on the city are necessary. New provision can be constructed accordingly, in some such manner as the following:

- 1—**The basis of retirement should be incapacity to continue in service.** The members should be required to retire compulsorily by law at an age, say 60, when the average employee may be considered too old to continue in service. Those who are able to continue beyond age 60 should be allowed to remain in the service upon satisfactory physical examination. Those who are superannuated before reaching age 60 may be retired under the disability provisions.
- 2—**Amount of pension should depend on length of service and average compensation.** The amount of pension should be based on the average compensation received during the entire period of service. A percentage of such compensation, say 1.5 per cent. for each year of service would determine the amount to be granted. The increase in pension in proportion to length of service brings the pension into a more logical and equitable relationship to the value of the employee's services than the present method, and serves as an inducement to the employee to remain in the service as long as he is able, even beyond the retirement age.
- 3—**Disability should be dealt with according to extent and nature.** While the elimination from the service of those unable to continue because of disability is as important as the elimination of the superannuated, it is inequitable to pension everybody so disabled without regard to cause of the disability and its extent. A revision of the present disability benefits and a separate treatment of the following groups is suggested.
 - a—Disabled in the performance of duty.
 - b—Disabled from ordinary causes to an extent interfering with the employee's chances for other employment.
 - c—Disabled from ordinary causes to an extent not interfering with the employee's chances for other employment.
- 4—**Those disabled in performance of duty to be liberally treated.** Provisions for disability in performance of duty should amount to half final salary and be available at any time of the employee's service.
- 5—**Total disability from ordinary causes should entitle to pensions.** Disability, incurred not in performance of duty and to an extent incapacitating for other employment should entitle an employee

to a pension. The amount of such pension should have a similar basis to that for superannuation but at a lower percentage, say 1.25 per cent. of the average salary for each year's service, and with a definite subsistence minimum of, say, \$300 per annum. This would tend to insure bona fide retirements.

6—Partial disability should entitle to return of contributions.

Disability not incurred in performance of duty and not incapacitating an employee from obtaining other employment should not give title to a pension. Transfer to other kinds of work in the city's service should be facilitated. In default of a transfer, the contributions of the employee should be returned with interest.

7—Disability pensioners should undergo periodical physical examination. Pensioners retired on the ground of disability should be physically examined every year. If a pensioner is found to have regained his health, the pension should be discontinued and return to active duty permitted.

8—Pensions should be given only to dependents of those dying in performance of duty. Pensions to dependents of those dying in performance of duty should be granted on the same basis, at a somewhat reduced rate, however, as when such pensions are granted to the employees injured in the performance of duty. These pensions should be mandatory and be paid to the widow, dependent parents or other relative depending on the deceased employee's earnings.

9—Dependents of those dying from accident should be entitled to the refund of contributions. Pensions to dependents of those dying from ordinary causes should not be granted in the future. The return of the employee's contributions with interest should be sufficient for the family to readjust itself to new circumstances. If found inadequate, the contributions of the city may be added to those of the employee.

10—Dependents of deceased pensioners should not be pensioned. The contributions of pensions to relatives of deceased pensioned employees does not appear equitable, and the cost of such pensions is excessive.

Retiring married employees may be given the option of taking a smaller pension covering two or more lives, thus eliminating the added expense.

Employees Should Bear a Larger Share of the Pension Burden.

The propriety and equity of either the city or the employees bearing the entire burden of a pension plan has never been success-

fully demonstrated. Authorities on the subject are divided. It is maintained that "straight," or non-contributory plans, are costly to the taxpayer and demoralizing to the service. Schemes entirely supported by contributions of employees, or the so-called "compulsory savings" schemes, necessitate too high a tax on the employees and the accumulation of large savings acts as a constant inducement to leave the service which only few are able to withstand.

The development of pension schemes, mostly abroad, points toward the advisability and expedience of the share-and-share alike method of paying for pensions. It is suggested, therefore, that the city and the employees divide equally the pension burden. The employee's contributions should be returned with interest in case of separation from service without pension, while the employer's contributions should remain in the fund.

The above indicated features and other details should be carefully considered and form the basis of a retirement measure which would accomplish its logical purpose—that of maintaining a high standard of efficiency in the service.

Funds Should Be Placed In Solvent Condition.

The cost of the benefits determined upon should be calculated and provision made for an adequate income.

The main features of the necessary financial and administrative measures to guarantee a satisfactory, deficit-proof operation of the scheme may be indicated as follows:

1—The police and firemen's pension funds should be amalgamated on the ground of economy in management and uniformity in the interpretation of the law.

2—The amalgamated fund should be closed to future appointees. The new benefit provisions should be made applicable to those now in the service. The amalgamated fund should, however, be kept separate from a new fund to be established for those who will enter the service in the future. The income of the old fund should be derived as follows:

a—Contributions of employees calculated to cover one-half of their prospective benefits for future services. Such contributions should be based on age of original entrance into the service. If the suggested changes in retirement provisions are made, the necessary contributions will amount to about 3 per cent. of those entering at age 20, to about 5 per cent. of those entering at age 30.

- b—**Contribution of the city** calculated to cover the other half of the employees' prospective benefit for future services. This would mean an annual budget appropriation on an average of about 4 per cent. to $4\frac{1}{2}$ per cent. of the active payroll.
- c—**Contribution of the city** for the liquidation of the liability to present pensioners and the liability remaining for future pensions on account of the present active force prior to reorganization, after change in benefit provisions has been made, and the future contributions have been fixed at 4 per cent. to $4\frac{1}{2}$ per cent. both for employees and the city. Total amount of the deficiency should be distributed over the next 60 years in uniform amounts to be appropriated from the city budget annually.

For the purpose of illustration, an approximation of the probable cost of new benefits and the value of the contributions of the present active force and the contributions of the city is presented on page 234 in the form of a hypothetical valuation balance sheet of the amalgamated police and firemen's pension funds.

3—**A new fund should be established for future employees.** For employees entering the service in the future a new fund should be established. This new fund should have no deficiencies on account of insufficient contributions in the past. It would derive its income from two sources, viz:

- a—Contributions of employees of 3 per cent. to 5 per cent. of their salaries, according to the age at entrance.
- b—Contributions of city of like amount appropriated annually from the city budget.

Solvency of Funds to Be Checked by Periodical Actuarial Valuations.

In calculating the benefits and contributions of a new scheme, the experience of the present funds in the past will not provide a reliable basis, first, because of the limited number of persons involved, and second, because rates of withdrawals, retirement, etc., under changed provisions will materially differ from those derived under the old scheme. The original calculations, therefore, must be made on the basis of the experience of similar funds and will be subject to correction at a later date according to the actual experience of the scheme under the new provisions.

It is therefore important that the present record system be replaced by one specially designed to accumulate statistics for the actuarial appraisalment of the funds in the future. Such appraisalment should take place at the end of, say, every five years. If there is found

to be any surplus or deficiency, the accounts will be balanced by a modification of the contributions of the employees and the city, and the modified contributions will continue in force for a period of five years—until the next valuation is made—when it may again be modified.

To preserve the confidence of the employees in the stability of the fund and the certainty of the promised benefit, which is of extreme importance in order that a pension system may accomplish one of its main purposes, i. e., improving the morale of the active force, it may be found preferable to avoid increase of the original rate of employee's contribution, and to make the adjustment with the city's contribution, requiring the newly-determined rate only of future entrants. In any case, a slight change is the most that may be expected and may possibly be downward as well as upward.

HYPOTHETICAL VALUATION BALANCE SHEET, AS OF DECEMBER 31, 1914, OF THE COMBINED POLICE AND FIRE-MEN'S PENSION FUNDS IF SUGGESTIONS AS TO REORGANIZATION ARE ADOPTED.*

Liabilities.

Pensions to existing pensioners:

Value of 46 service pensions for \$24,975 per annum already granted....\$	180,819
Value of 27 disability pensions for \$13,810 per annum already granted	136,995
Value of 58 pensions for \$15,563 per annum to widows.....	234,228
Value of 5 pensions for \$813 per annum to children.....	3,611
Value of prospective pensions and return of contributions in case of withdrawal if suggested changes are adopted and estimated at one-half of pensions under present provisions.....	1,220,862
Total liabilities	\$1,776,515

Assets.

Accumulated funds	\$ 252,075
Value of 4 1-2 per cent. of salaries to be contributed by employees....	350,000
Value of 4 1-2 per cent. of salaries to be contributed by city.....	350,000
Value of annual deficiency appropriation of \$38,373 for the next 50 years	824,442
Total assets	\$1,776,515

* This hypothetical valuation balance sheet has been constructed by comparison with the values arrived at in the recent valuation of the New York police pension fund. With full appreciation of its chance of error, it is presented merely for the purpose of definitizing suggestions for the financial arrangements which may have to be adopted under the assumption used.

APPENDIX.

STATISTICS SHOWING THE OPERATION OF THE POLICE AND
FIREMEN'S PENSIONS FUNDS.**FIREMEN'S PENSION FUND.****Establishment of Fund.**

The pension fund was established in 1894. The original law was changed in 1908, 1909 and 1912. These changes brought about

a—The imposition of a minimum 15-year service limit for ordinary disability retirement.

b—A reduction in the amount of disability pensions in the discretion of the commissioner.

c—Increases in sources of income; and

d—Removal of limitation of amounts to be contributed by tax levy.

Benefits Paid by Fund.

The fund pays the following benefits to:

Members—**Service Pension—**

Pension of not less than one-half final salary after 20 years or more service, regardless of age or incapacity. Pension is for life and may not be revoked, repealed or diminished.

Disability Pension—

Pension of not less than one-half final salary, regardless of age and length of service, when disabled in performance of duty. Pension is for life and may not be revoked, repealed or diminished.

Pension of not less than \$250 or more than \$500 after not less than 15 years of service and regardless of age, when disabled not in performance of duty.

Dependents—**Widows and Children—**

Pensions of not exceeding \$300 to widow and children of any member killed or dying from injuries received in performance of duty.

Pension of not exceeding \$300 to widow and children of any member dying after 15 years of service.

Pensions of not exceeding \$300 to widow and children of any pensioner dying, provided the marriage occurred prior to the retirement of the member.

Pensions to widows cease on death or remarriage.

Pensions to children cease on death, marriage or attainment of age 18.

Parents—

Pensions of not exceeding \$300 to parents of deceased members and pensioners as mentioned above, provided there is no widow, or children under 18 years of age.

Brothers and Sisters—

Pensions of not exceeding \$300 to brothers or sisters of deceased members and pensioners as mentioned above, provided there is no widow, or child, or dependent parent.

Pensions to brothers and sisters cease on death or attainment of age 18.

Pensions May Be Revoked and Reduced.

In the discretion of the commissioner of public safety any pension may be revoked except when granted after 20 years of service or in case of injuries received in the performance of duty.

In case of deficiency in the pension fund, all pensions may be pro rata reduced.

Income Provided By

Members—

2 per cent. of salaries.

City—

Indirectly—

Fines imposed upon members of the force.

Absence deductions from the pay of the force.

Fines for violation of fire ordinances.

Licenses for public amusement places.

Two per cent. of liquor tax.

Directly—

Annual appropriation in discretion of city.

Others—

All gifts or bequests to the fund.

Interest on invested funds.

RECEIPTS AND DISBURSEMENTS.**Annual Receipts by Sources, 1907-1913.**

Years.	Employees' Contributions 2 per cent. of Salaries.	City's Indirect Contributions, Miscel. Revenues.	City's Direct Contributions, Annual Approp.	Donations and Requests.	Interest.	Total Receipts.
1907	\$5,041.16	\$6,619.20	\$3,000.00	\$ 435.00	\$1,838.19	\$16,933.55
1908 . . . .	.....	.....	.....	.....	.....	19,673.11
1909	4,925.85	7,081.79	3,000.00	1,045.00	1,917.04	17,969.68
1910	6,032.26	6,320.19	3,000.00	260.00	2,029.70	17,642.15
1911	6,188.08	6,921.63	3,000.00	370.00	1,906.04	18,385.75
1912	6,787.79	8,222.90	3,000.00	2,029.35	1,448.93	21,488.97
1913	7,282.80	7,961.51	6,000.00	581.00	1,309.60	23,134.91

Annual Disbursements, 1907-1913.

Years.	Pensions.	Miscellaneous Expenses.	Total Disbursements.
1907	\$12,000.02	\$15.00	\$12,015.02
1908	15,200.42	....	15,200.42
1909	18,417.50	....	18,417.50
1910	19,363.82	10.50	19,374.32
1911	21,782.05	34.86	21,816.91
1912	23,522.75	....	23,522.75
1913	25,402.35	16.00	25,418.35

Comparative Growth of Receipts and Disbursements, 1907-1913.

Years.	Receipts.	Disbursements.	Annual Surplus.	Annual Deficit.
1907	\$16,933.55	\$12,015.02	\$4,918.53	\$
1908	19,673.11	15,200.42	4,472.69	.....
1909	17,969.68	18,417.50	.....	447.82
1910	17,642.15	19,374.32	.....	1,732.17
1911	18,385.75	21,816.91	.....	3,431.16
1912	21,488.97	23,522.75	.....	2,033.78
1913	23,134.91	25,418.35	.....	2,283.44

Amount of Fund at the End of the Years 1906 to 1914.

1906	\$43,673.31
1907	48,591.84
1908	53,064.53
1909	52,616.71
1910	50,884.54
1911	47,453.38
1912	45,419.60
1913	43,136.16
1914	43,201.31

Growth of Pension Roll, 1894 to April 1915.

	Members	Pensions to:		Total
		Widows	Children	
Pensions granted, 1894 to 1915.....	a55	d22	3	80
Pensions terminated 1894 to 1915.....	b12	3	1	16
Pensions on roll, April, 1915.....	c43	19	2	64
Annual charge, April, 1915.....	\$22,800.00	\$5,530.00	\$300.00	\$28,630.00
Average pension	530.23	291.05	150.00	447.34

- a Of the 55 pensioned members, 24 were retired for disability and 31 for service. Of the 55 pensioned members, 46 were appointed at an average age of 27 years and had served an average of 21 years before retirement.
- b Of the 12 deceased pensioners, 4 were retired for disability and 8 for length of service.
- c Of the 43 pensioned members now on the roll, 20 were retired for disability and 23 for length of service.
- d Of the 22 widows placed on the roll, 7 were widows of deceased pensioners and 15 were widows of members dying in active service.

Comparative Growth of Salary and Pension Rolls, 1907-1914.

Years	Number of Active Employees	Pensioners		Active Payroll ^b	Pension Roll ^c	
		Number	Per Cent. of Active Employees		Amount	Per Cent. of Active Payroll
1907....	a	32	a	\$252,058.00	\$12,000.02	4.8
1908....	255	42	16.5	a	15,200.42	a
1909....	255	45	17.6	246,292.50	18,417.50	7.5
1910....	289	48	16.6	301,613.00	19,363.82	6.4
1911....	295	51	17.3	309,404.00	21,782.05	7.0
1912....	295	56	19.0	339,389.50	23,522.75	6.9
1913....	322	58	18.0	364,140.00	25,402.35	7.0
1914....	333	65	19.5	a	a	a

- a Data unavailable.
- b Estimated on the basis of amounts of 2 per cent. salary deductions turned over to the fund during the corresponding years.
- c In examining the percentage relation of pension to payroll it must be kept in mind that the first is in the nature of deferred compensation for services rendered in the past, while the latter is pay for current services. A present increase in the number of active employees will raise the annual pension demands only 20 years hence, when the new entrants will begin to retire. On the other hand, an increase in salary rate will have an immediate effect of raising pension demands since the pensions of those currently retiring are based on the final (increased) salary. The slowness of the increase of the percentage relation of pensions to payroll from 1909 to 1913 is mainly due to extraordinary increase of the payroll from \$246,292.50 in 1909 to \$364,140.00 in 1913.

POLICE PENSION FUND.**Establishment of Fund.**

The pension fund was established in 1887. The original law was changed in 1899 and 1908. These changes brought about—

- a—The imposition of a minimum 15-year service limit for ordinary disability retirement.
- b—The reduction in the amount of pension granted in case of disability, and
- c—Increases of source of revenue of the fund.

Benefits Paid by Fund.

The fund pays the following benefits to—

Members—**Service pension—**

Pension of not less than one-half final salary after 20 years or more service, regardless of age or incapacity.

Pension is for life and may not be revoked, repealed or diminished.

Disability pension—

Pension of not less than one-half final salary, regardless of age and length of service, when disabled in performance of duty.

Pension is for life and may not be revoked, repealed or diminished.

Pension of not less than \$250 or more than \$500 after not less than 15 years of service and regardless of age, when disabled not in performance of duty.

Dependents—**Widows and Children—**

Pension to widow and children, not exceeding \$500 or one-half salary of any member killed or dying from injuries received in performance of duty.

Pension to widow and children, not exceeding \$500 or one-half of salary of any pensioner who has served 20 or more years, providing the marriage occurred prior to retirement of the member.

Pension of not exceeding \$250 to widow and children of any member dying or of a deceased pensioner who has served less than 20 years but not less than 15 years.

Pensions to widows cease on death or remarriage.

Pensions to children cease on death, marriage, or attainment of age 18.

Parents—

Pensions within the same limitations to parent or parents of deceased members and pensioners as mentioned above, provided there is no widow or child under 18 years of age.

Brothers and Sisters—

Pensions within the same limitations to brothers or sisters of deceased members and pensioners as mentioned above, provided there is no widow or child or dependent parent.

Pensions to brothers and sisters cease on death or attainment of age of 16.

Pensions May Be Revoked or Reduced.

In the discretion of the commissioner of public safety any pension may be revoked except when granted after 20 years of service or in the case of injuries received in the performance of duty.

In the case of deficiency in the pension fund all pensions may be pro rata reduced.

Income Provided by

Members—

Two per cent. of salaries.

City

Indirectly—

Fines imposed by members of the force.

Absence deductions from the pay of the force.

Amounts paid for special services of policemen.

Witness fees of policemen.

Unclaimed property and forfeited bail.

Fines for violation of huckster licenses, police regulations, carrying concealed weapons, and non-registration of dogs.

Licenses for billiard tables, bowling alleys, pawnbrokers, junk dealers and lunch wagons, and \$5 from each huckster license.

One and one-half per cent. of liquor tax.

Directly—

Annual appropriation of \$3,000.

Others—

All gifts or bequests to the fund.

Interest on invested funds.

RECEIPTS AND DISBURSEMENTS.**Annual Receipts by Sources, 1907-1914.**

Years.	Employees' Contributions 2 per cent. of Salaries.	City's Indirect Contributions, Miscel. Revenues.	City's Direct Contributions, Annual Appropriations.	Donations and Bequests.	Interest.	Total Receipts.
1907.....	\$4,582.11	\$22,655.07	\$3,000.00	\$10.00	\$3,913.42	\$34,160.60
1908.....	.....	.....	.....	.....	.....	34,829.57
1909.....	4,712.80	23,901.01	3,000.00	27.00	5,084.07	36,724.88
1910.....	5,766.11	24,578.81	3,000.00	1.50	5,689.43	39,035.85
1911.....	6,323.01	20,543.63	3,000.00	497.00	6,248.68	36,612.32
1912.....	7,100.70	22,460.34	3,000.00	35.00	5,609.60	38,205.64
1913.....	7,553.69	22,270.01	3,000.00	25.00	7,236.35	40,085.05
1914.....	7,961.49	20,865.07	3,000.00	50.00	7,732.07	39,608.63

Annual Disbursements, 1907-1914.

Years.	Pensions.	Miscellaneous Expenses.	Total Disbursements.
1907.....	\$18,707.28	\$ 292.42	\$18,999.70
1908.....	16,924.87	.....	16,924.87
1909.....	22,338.42	.....	22,338.42
1910.....	24,137.14	.....	24,137.14
1911.....	23,191.91	208.24	23,400.15
1912.....	23,052.89	1,232.48	24,285.37
1913.....	23,239.09	237.20	23,476.29
1914.....	25,792.82	36.97	25,829.79

Comparative Growth of Receipts and Disbursements, 1907-1914

Years	Receipts	Disbursements	Annual Surplus
1907.....	\$34,160.60	\$18,999.70	\$15,160.90
1908.....	34,829.57	17,904.70	16,924.87
1909.....	36,724.88	22,338.42	14,386.46
1910.....	39,035.85	24,137.14	14,898.71
1911.....	36,612.32	23,400.15	13,212.17
1912.....	38,205.64	24,285.37	13,920.27
1913.....	40,085.05	23,476.29	16,608.76
1914.....	39,608.63	25,829.79	13,778.84

Amount of Fund at the End of the Years 1906-1914.

1906.....	\$ 89,981.38
1907.....	105,142.28
1908.....	122,067.15
1909.....	136,453.61
1910.....	151,352.32
1911.....	164,564.49
1912.....	178,484.76
1913.....	195,093.52
1914.....	208,872.36

Growth of Pension Roll, 1892—April, 1915.

	Members	Pensions to		Total
		Widows	Children	
	a	d		
Pensions granted, 1892 to 1915.....	56	46	10	112
	b			
Pensions terminated, 1892 to 1915.....	26	7	7	40
	c			
Pensions on roll, April, 1915	30	39	3	72
Annual charge, April, 1915.....	\$15,985.00	\$10,033.34	\$513.34	\$26,531.68
Average pension	532.83	257.27	171.11	368.50

- a Of the 56 pensioned members, 14 were retired for disability and 42 on account of service. Of the 56 pensioned members, 40 were appointed at an average age of 30 years and had served an average of 24 years before retirement.
- b Of the 26 deceased pensioners, 7 were retired for disability and 19 on account of service.
- c Of the 30 pensioned members now on the roll, 7 were retired for disability and 23 on account of service.
- d Of the 46 widows placed on the roll, 21 were widows of deceased pensioners and 25 were widows of members dying in active service.

Comparative Growth of Salary and Pension Rolls—1907-1914

Years.	Number of Active Employees.	Pensioners.		b Active Payroll.	Pension Roll.	
		Number.	Per cent. of Active Employees.		Amount.	Per Cent. of Active Payroll.
1907.....	a	45	u	\$229,105.50	\$18,707.28	8.2
1908.....	228	49	21.5	u	16,924.87	a
1909.....	230	55	23.9	235,640.00	22,338.42	9.5
1910.....	231	58	25.1	288,305.50	24,137.14	8.4
1911.....	299	56	18.7	316,150.50	23,191.91	7.3
1912.....	300	58	19.3	355,035.00	23,052.89	6.5
1913.....	334	64	19.2	377,684.50	23,239.09	6.2
1914.....	336	69	20.5	398,074.50	25,792.82	6.6

a Data unavailable.

b Estimated on the basis of amounts of 2 per cent. salary deductions turned over to the fund during the corresponding years.

c In examining the percentage relation of pension to payroll, it must be kept in mind that the first is in the nature of deferred compensation for services rendered in the past, while the latter is pay for current services. A present increase in the number of active employees will raise the annual pension demands only 20 years hence, when the new entrants begin to retire. On the other hand, an increase in salary rates will have an immediate effect of raising pension demands, since the pensions of those currently retiring are based on the final (increased) salary. The decrease in the percentage relation of pensions to payroll from 1909 to 1913 is mainly due to the extraordinary increase of the force and to the increase in the pay in 1912. In 1914 the percentage of pensions to payroll increased to 6.6 per cent., as against 6.2 per cent. in 1913. Since it is reasonable to suppose that for the time being the payroll will not materially increase while the pension roll will continue to rise, the percentage relation will rapidly increase and in a few years exceed probably 10 per cent. to 15 per cent.

Rate of Compensation for Active Service.

11 Patrolmen.....	\$ 720 per annum	\$ 7,920
4 Patrolmen	840 " "	3,360
280 Patrolmen	1,080 " "	302,400
20 Sergeants.....	1,200 " "	24,000
1 Interpreter	1,200 " "	1,200
6 Lieutenants	1,440 " "	8,640
3 Detective Sergeants	1,650 " "	4,950
6 Captains	1,920 " "	11,520
3 Inspectors and Captains of Detectives.....	2,200 " "	6,600
1 Deputy Chief	2,600 " "	2,600
1 Chief	3,500 " "	3,500
336 Members at an average salary of.....	\$1,121.10 " "	\$376,690

Tentative Valuation Balance Sheet,
as of December 31, 1914.*

Liabilities.		Assets.	
Item.	Present Value of Actual Payments to be made. Interest 4 per cent.	Item.	Present Value of Payments to be Received. Interest 4 per cent.
Pensions to existing pensioners:		Employees' contributions of	
23 service pensioners..	\$12,525 \$ 90,681	2 per cent. of salaries...	\$ 77,962
7 disability " ..	3,460 34,323	Funds in hand.....	208,872
39 widow " ..	10,033 151,002	Deficiency.....	1,215,188
3 children " ..	513 2,279		
Total existing pensioners.....	\$278,285		
Pensions to present members of the active force and their dependents			
	1,223,737		
Total.....	\$1,502,022	Total.....	\$1,502,022

* This balance sheet has been constructed by comparison with the results of the actuarial valuation of the police pension fund of New York and under the assumption that the conditions of the Rochester fund are identical. As a matter of fact, the benefits of the New York fund are less liberal, and it is therefore thought that the above figures rather underestimate the insolvency of the Rochester fund. The value of the future contributions of the city in the form of direct appropriations and miscellaneous revenues is not included under the assets, since it is next to impossible to foretell what such contributions will amount to. If the city were to discharge the deficiency of \$1,215,188, as shown above, in uniform annual installments, during the next sixty years, it would require an annual appropriation of about \$62,000. The present contributions of the city average, however, only about \$25,000 per annum.

FIRE PREVENTION.

Fire Marshal Enforces Fire Prevention Ordinances.

The fire marshal's office is organized as a bureau of the department of public safety and is in charge of a fire marshal whose functions include supervision over and inspection of all new building construction and repairs to buildings, enforcing all laws and ordinances relative to fire prevention, and the manufacture, sale, storage, and transportation of combustibles and explosives.

His functions may be divided into two classes, namely, those exercised as superintendent of buildings, and those exercised as fire marshal.

Until the recent abolition of the office of state fire marshal, he served pursuant to law, as deputy state fire marshal.

Office Staff.

In his work he is assisted by

- 1 assistant fire marshal.
- 2 minor inspectors.
- 1 inspector of combustibles.
- 4 building inspectors.
(1 vacancy at present).
- 1 plaster inspector.
- 1 stenographer.
- 1 clerk.

As fire marshal he is directly assisted by the inspector of combustibles, and two minor inspectors, while all of the inspectors of buildings are used in the inspection of new construction work on gasoline tanks.

Functions of Subordinates.

The inspector of combustibles devotes most of his time to inspection of places at which dynamite is used or stored, while the minor inspectors are used to inspect cellars, alleys, and hallways in the more congested districts along the line of fire prevention inspection.

One of the minor inspectors is paid at the rate of fifty cents per hour, over and above his regular salary for inspecting moving picture shows during night performances. The annual yearly compensation for this work averages \$180.

Permits Issued by Bureau.

In accordance with the building code, in order to install a gasoline tank in a garage or on other premises, it is necessary first to obtain a permit from the bureau of buildings or fire marshal.

The procedure is as follows: The owner or lessee of the property makes written application upon a printed form before the construction work has been begun. Upon receipt of the application the fire marshal, either from his own knowledge of the city or upon an inspection, determines whether the location is desirable. Upon approving the location, the fire marshal, pursuant to law, then transmits the application to the commissioner of public safety for his approval or disapproval. When approved the application is then returned to the fire marshal who issues a permit, a copy of which is retained in the office of the marshal. The permit is merely an authorization to begin construction work, since upon the face of the permit is stamped the following:

“Notice,
Tanks Must Not Be Covered
Until Inspected by the Bureau.”

With the permit, the applicant is given a card upon which he is required to notify the fire marshal at such time as the construction work upon the tank is sufficiently completed to permit of an inspection. This card is then delivered to the inspector in whose district the tank is located. Upon inspection, the inspector reports upon a card having the following information thereon:

Owner or agent.	Date.
Address.	
Location.	
Inspector	Use
Description.	
Action taken.	
Reinspected.	
Conditions.	

If the inspector discovers a condition which requires the issuance of an order by the fire marshal, this fact is noted on the card, and the attention of the marshal directed to it. If on the other hand the construction of the tank complies with the law, the card is filed in a small metal filing cabinet upon the desk of the inspector. These cards are filed by streets and no difference is made between reports upon gasoline tanks, regular inspection on building construction, special inspections, or alteration inspections.

No sketch of the tank is placed upon the card or on any other record in the department, nor is the fire department notified of the issuance of the permit.

Theatre and Moving Picture Houses.

Applications for license to operate theatres or moving picture houses are made to the license bureau of the police bureau or sometimes to the fire marshal.

The license clerk in the bureau of licenses notifies the fire marshal over the telephone of the location of the proposed moving picture house or theatre, and the premises are then inspected either by the fire marshal or his assistant. The fire marshal or his assistant, upon completion of his inspection, makes no written report, except in such cases as he discovers conditions which require the issuance of an order. In these instances, the records contain merely a copy of the order issued. If the premises are found to comply with the law, the fire marshal or his assistant notifies the license clerk over the telephone and the license is issued. No regular inspection blanks are provided, and, in fact, no record of the inspection is made except in instances where violations of the law are discovered.

Of course, if a theatre or moving picture house is to occupy a specially constructed building, the plans and the inspection during construction are recorded in the regular way by the department.

Not only does the fire marshal receive no advice from the chief of the fire bureau as to the theatres or moving picture shows, but he does not even notify the bureau when such inspections have been made or licenses issued.

Blasting and Dynamite Permits.

Permits for blasting, storing, selling, manufacturing, or transporting dynamite, are issued in the same manner as are the permits for the installation of gasoline tanks, with the following exceptions:

- 1—The premises where the dynamite is to be used or stored, etc., is inspected by the inspector of combustibles.
- 2—The approval of the commissioner of public safety is not required.

As these licenses are issued to the owner or contractor, no record is made of the name of the person or persons who actually do the blasting, nor are the "shooters" licensed or examined.

Moving Picture Operators.

All moving picture operators are licensed by the city as the result of a written, oral, and practical test which is conducted by a board of

examiners of which the fire marshal is the chairman and executive officer. The board consists of—

The fire marshal,
Superintendent of police and fire alarms,
City electrician,
The owner of a moving picture house,
Two operators,
Commissioner of public safety.

Each applicant is required to file a written application and to make affidavit as to the statements contained therein.

No picture of the operator is placed upon the license.

Storage and Sale of Kerosene Oil; Dry Cleaners.

The laws or ordinances do not require grocers and other merchants selling kerosene oil, gasoline, naphtha, and the like at retail to obtain a license or permit. Consequently, the fire marshal exercises no control or supervision over such places. Nor even does the city require the highly hazardous industry of dry cleaning to be licensed or regulated. Paint stores selling naphtha, turpentine, benzine, etc., are neither licensed nor regulated.

Records of Office.

The records of the office of fire marshal in connection with that part of his work having to do with the enforcement of fire prevention laws and ordinances consist of—

Permits issued.

A duplicate of each permit issued is retained in a bound book.

All permits being recorded on the same forms, this book contains a record of all permits issued. (The majority of these permits are for gasoline tanks).

Inspection reports.

Card records of all inspections made, regardless of whether they have to do with structural conditions or combustibles, are kept in files upon the desk of the inspector in whose district the inspections were made and are filed according to streets.

Record of complaints.

Card records of complaints received, upon which are recorded the reports of the inspectors, are kept in the file upon the desk of one of the office clerks and filed according to street.

Record of orders issued.

A carbon copy of all orders issued is kept and filed in a cabinet under the heading "orders issued." These include all

orders regardless of whether they have to do with structural conditions or combustibles.

Record of moving picture operators.

All of the examination papers, applications, and other matters pertaining to moving picture operators are filed in a drawer of the fire marshal's desk.

Special reports.

Inspectors' special reports upon inspections, which reports require more space than is afforded upon the ordinary inspection card, are made on a special form and filed in the office cabinet.

Officers of the Fire Bureau Make Inspections.

In addition to the inspections made by the minor inspectors of the fire marshal's office, battalion chiefs and company captains are required to make inspections within their districts and to file written reports upon these inspections. The reports are made upon specially provided forms which are not in accordance with the modern report form in use in most large cities for reporting fire prevention inspection. They are defective in that they do not call for sufficient information concerning the buildings inspected. Moreover, they are not used to advantage, since they are filed away by districts and not by location. The manner of filing them makes their use for reference difficult. These reports are not used for the purpose of guiding the officers as to the location of hazardous conditions in buildings or instructing the firemen as to the location of sprinkler shut-offs, stand pipe connections, hatchways, electric switches, gas and water cut-offs, and many other things which should be called to the attention of the firemen.

Copies of these reports are forwarded to the commissioner of public safety. When conditions are discovered which require the issuance of an order, the commissioner of public safety forwards the report to the fire marshal whose inspectors serve the order and make the reinspection. Neither the chief of the fire bureau nor his subordinate officers are notified of the results of their report, nor have they any way of knowing, except upon inquiring at the fire marshal's office, whether an order was issued. The fact that the officers of the bureau do not have the enforcing of their own orders lessens their enthusiasm in inspection and their diligence in follow-up work. Frequently, conditions reported by them for which an order should be issued, do not result in prompt action. But because of the division of authority, the bureau of fire has no further responsibility for conditions after they have been reported.

Old Theaters in Bad Condition.

While the theaters of recent construction are models of fire-resisting building and equipped with proper fire-fighting appliances, at least two of the older theaters inspected show the need for close attention by the officers of the fire marshal's office and the bureau of fire.

One of these theaters was not equipped with exit signs of a type required by the building code and the condition as to the storage of rubbish was such as to invite fire. It was not equipped with a city fire alarm box, there were no water casks or buckets upon the stage or in the dressing-rooms, and the scenery had not been dipped in fire-proofing fluid.

Another theater, the front of which is of modern fire-resisting construction, with good exits, well located, properly equipped and lighted, has a stage of the oldest type of construction with wooden gridiron and fly galleries and three tiers of flimsy wooden dressing rooms on the stage. The dressing rooms, property room, and under stage are not sprinkled, and the conditions as to rubbish back of the stage were particularly bad, since the fly galleries are used for the storage of old scenery. No fire drills are held, nor are the employees of the theaters furnished with printed instructions as to their duties in case of fire or panic.

Several moving picture houses were inspected and found to have adequate exits and to be of modern fire-resisting construction, but a number of these houses were permitted to obstruct the free use of the lobbies as an exit by placing there large easels bearing advertising posters.

One moving picture house was permitted to place chains across the two last rows of seats on each aisle. The attention of the fire marshal was called to this condition but upon subsequent visits the chains were found to be still in use.

The general condition of the theaters and moving picture houses with regard to construction and fire-fighting appliances was found to be good with the exception of the two oldest houses in the city.

Firemen Detailed to Theaters.

Pursuant to law, a fireman is detailed to each theater while the theaters are occupied by audiences. These firemen are required to inspect the house before the performance begins and to visit the different parts of the house during the performance. They are not, however, equipped with electric torches or lanterns, so that in the case of a fire or an accident causing the electric lights to be extinguished,

these firemen would not be of much service to the people in the audience.

Firemen detailed to theaters should be furnished either electric torches or lanterns and if lanterns are carried they should be kept lighted during the time the house is occupied.

The theaters are not required to pay for the services of the firemen. The adoption of an ordinance requiring owners of theaters to pay for the services of the firemen at such times as they are on duty at the theaters is recommended.

Inspection of Hotels.

While all of the hotels in the city are annually inspected by representatives of the fire marshal's office, it was apparent that these inspections did not result in forcing the owners of the hotels to mark adequately the entrances to fire escapes.

In one of the largest hotels inspected there was not a single red light indicating the location of a fire escape or any sign pointing out the direction to follow in case of fire except a small sign not illuminated and poorly arranged which read "Fire escape."

Need for More Efficient Fire Prevention Work.

Although the conditions throughout the city with regard to fire prevention were found to be generally good, it is nevertheless a fact that there is need for the adoption of a better plan of procedure as to fire prevention inspections and the recording of them.

The present procedure divides responsibility for these inspections between the fire bureau and the fire marshal's office and does not furnish the chief and his subordinate officers with adequate power to enforce orders, nor does it provide for supplying the chief of the fire bureau with adequate information as to the activities of the fire marshal's office in fire prevention inspection or in the issuing of permits for activities of a hazardous character.

While there is no friction between the fire marshal's office and the bureau of fire there is an absence of co-operation by reason of the defective procedure which is not conducive to efficiency.

Theaters and moving picture shows are constructed and opened without the chief of the fire bureau being consulted as to the advisability of permitting their construction or as to the adequacy of the fire-fighting appliances installed. In fact, the bureau of fire is not officially notified of the existence of these moving picture shows and theaters.

The procedure with regard to the enforcement of the fire prevention ordinances should be revised so as to place the responsibility

for fire prevention inspections and the reporting upon them, as well as the enforcement of the laws governing fire prevention, under the jurisdiction of the chief of the bureau of fire, thus relieving the fire marshal of his present duties in connection with fire prevention work. To do this, additional legislation would be necessary.

FIRE PREVENTION COMMISSION.

The adoption of a law creating a fire prevention commission with broad powers is recommended. This commission should consist of the commissioner of public safety, the superintendent of buildings, the chief of the fire bureau, and two citizens to serve without salary.

The chief of the fire bureau should be the executive officer of the commission. The commission should have full power to make rules and regulations and issue orders which would have the effect of law.

Provision should be made for fire prevention inspections by uniformed firemen of all buildings. The need for the inspection of dwellings is emphasized, inasmuch as in most cities of the United States the majority of fires occur in residences of citizens. Large mercantile establishments and institutions, which now receive the closest attention of the fire marshal's inspectors and the officers of the fire bureau, are for the most part subjected to frequent inspection by other authorities and agencies such as the state labor department, the fire underwriters, and the owners or managers themselves, while the residences are not inspected at all. Owners of large industrial institutions have the advice and counsel of experts and usually seek to make their buildings as safe as possible, while the builders of residences have not the advantage of this advice. Therefore, it is urged that the fire bureau conduct a house-to-house inspection.

Suggested Rules and Regulations.

The rules and regulations adopted by the fire prevention commission should provide, among other things:

- 1—That all premises upon which kerosene oil, gasoline, or other explosives or combustibles are used, or sold, or stored be licensed regardless of the quantity.
- 2—That all "shooters" employed in blasting dynamite, be licensed and that the license be issued only after a careful examination and practical test.
- 3—That the photographs of moving picture operators be placed upon their licenses.
- 4—That no moving picture show or theater license be issued except after an inspection by the chief of the bureau of fire or officers

delegated by him, and upon the written approval of the chief and the superintendent of buildings. The report of their inspection should be made upon printed forms and a copy certified to the license bureau and made a part of its record.

5—That the chief of the bureau of fire be required to maintain proper records of inspection, orders issued, and prosecutions.

6—That in cases where gasoline tanks are installed or large quantities of combustibles or explosives are stored, the records of the bureau of fire include an accurate drawing of the storage tank or other containers in which the explosives are stored, indicating clearly their location in the building licensed.

Chief Should Be Held Responsible for Fire Prevention Inspections.

Efficiency in the management of fire bureaus demands not only an intimate knowledge and experience in fire extinguishment, but also diligent work in the prevention of fires, and the chief and his subordinates should be held strictly to account for this branch of the service. To do this and to inspire the officers and the firemen, responsibility must be accompanied by authority. Since the chief and his men must enter the buildings when summoned to extinguish a fire, it is necessary that they be familiar with the interior and the location of hazardous conditions. They can only acquire this knowledge by frequent inspections and by carefully studying the reports upon these inspections. Too much stress cannot be laid upon the importance of giving to the chief adequate power to enforce the orders relative to fire prevention, or to the further fact that it is imperative, in the interest of efficiency, that the chief have complete information as to the location of all buildings in which are housed industries using explosives and combustibles.

Commission's Powers Should Be Especially Broad.

It has been found by experience in other cities that it is scarcely possible to adopt laws upon fire prevention which will be wholly adequate in their provisions to furnish the protection necessary and at the same time fit all conditions found in the city. Therefore, it must be apparent that the fire prevention commission should have adequate power to issue orders in specific cases which shall be in keeping with the conditions in each case, and that these orders should have the same force and effect as statutes.

The powers of the commission should include, among others, the right to:

1—Inspect any building, structure, place or premises.

2—Remedy any condition found in violation of law or of rules and regulations in respect to fires or the prevention of fires.

- 3—Require that a report be made within twenty-four hours after every fire by the owner or lessee of the apartment or premises in which a fire occurs. A large percentage of fire insurance claims are paid in cases where the fire department was not in attendance and was never notified of the fire or the cause thereof. Thus, a large field for investigation as to the causes of fire is untouched.
- 4—Require the installation of an automatic fire alarm system, gas shut-offs, sprinkler system, and other fire extinguishing equipment, and also adequate and safe means of exit.
- 5—Require that any building or structure which is inadequately protected against fire be vacated.
- 6—Require regular fire drills in factories, stores, schools, hospitals, and asylums.
- 7—Require that licenses be demanded of all persons engaged in the sale, transfer, or storage of combustibles and inflammables, and that the installation of all tanks and other receptacles holding combustibles or inflammables be properly inspected.
- 8—Promulgate rules and regulations governing the handling of combustibles and inflammables.
- 9—Declare a building to be a nuisance when it is deficient in fire extinguishing equipment or used in a manner to create a menace to life or property.
- 10—Compel the owners of hazardous buildings to place them in a condition of safety.

BUREAU OF BUILDINGS.

The bureau of buildings forms a part of the department of public safety. The chief officer of the bureau is the fire marshal who is appointed by the commissioner of public safety and holds office during his pleasure. It is apparent from a survey of this bureau that its development has not kept pace with building operations in the city of Rochester. As a result it is necessary in this report to include some rather sweeping recommendations for enlargement and reorganization.

Organization.

The reason for placing the bureau of buildings in the department of public safety is not apparent. The functions of the bureau are such that it is purely a technical bureau and more closely allied to the department of public works than to any other city department.

Inasmuch as the activities of the bureau are principally those of building inspection, and since the force required for this work is comparatively small, there appears to be no good reason for regarding this organization as a separate bureau. Its work is right in line with that of the bureau of engineering and, in fact, it would be an advantage if it were under supervision of the engineering specialists of that bureau. The examination of plans for buildings is mainly for the purpose of determining whether the proposed structures will stand up as designed. Such being the case, the question is one of engineering rather than of architecture. It is, therefore, recommended that the present bureau of buildings be made a division of building inspection within the bureau of engineering of the department of public works. It would be under the direction of a superintendent of building inspection and would comprise (1) an office force under a chief clerk, (2) building inspectors under a chief inspector, and (3) smoke and boiler inspectors under a chief inspector.

In the reorganization proposed, inspection of combustibles is omitted, as a function of this bureau or division. Such inspection is properly a function of the fire bureau and should be performed by that bureau. The inspection of fire escapes, however, is a part of building construction and should be included in the activities of the proposed division of building inspection.

One man is at present employed as smoke inspector. He is required to inspect all buildings where any type of engine is in use and to enforce the smoke ordinance. He reports directly to the com-

missioner of public safety, and no record of his work is kept in the bureau of buildings although related thereto to the extent that the construction of boilers, smoke stacks, etc. is related to the smoke problem. To correlate these functions for administrative purposes, the proposed reorganization provides that the smoke inspector shall be an employee of the division of building inspection. In fact, boiler inspection might, with advantage, be combined with smoke inspection and placed under the same administrative direction. In the proposed plan provision is therefore made for combining these two activities. However, the work is such that a chief inspector and an assistant should be able to handle it at present.

Inadequate Office Control.

The fire marshal glances through the daily reports of the inspectors. This is practically all the supervision that is exercised over the employees of the bureau. Reports are not kept in a central office file, but returned to the inspectors. Furthermore, no steps are taken to determine the efficiency of the inspection force or the character of the work which is being done, unless there is a complaint received.

It is suggested that the chief of the bureau, or of the division as proposed, exercise more thorough supervision than at present. Such supervision can only be through a satisfactory system of reports and a central file of all inspection service. Each type of inspection made should be reported on a separate form filed separately in the office. All forms should be of standard size, different colors being used for purposes of identification.

The writing up of reports in the office from notes taken in the field should be prohibited. There is danger of inaccuracy from loss of notes, mistakes in copying, and lapses of memory whenever such a procedure is allowed. No clerical work of any kind should be required of a field force, and it is, therefore, unnecessary to provide them desks.

A central file of inspectors' reports should be kept and the present system of allowing each inspector to keep a separate personal file should be discontinued. All reports should be filed according to kind and cross indexed by owners and locations.

Permits.

Permits for building operations are issued on application and without fee. These permits are made in duplicate, the original remaining in the office as a permanent record. In cases where plans are filed with the bureau, the permit is filed with the plan, otherwise the permit

remains in a loose-leaf record book. No classification is attempted and no record is kept to show whether an inspection is made in connection with each permit issued.

In order that there may be proper administrative control over inspections and in order that the history of each building permit may be complete, it is necessary that provision be made in the office record of a permit for the inspector's report. An inspection should be made in connection with each permit issued, and it is suggested that a card history be kept of each permit issued for building operations.

The cost of issuing a permit is a proper charge against the applicant, and it is suggested that a fee sufficiently large to pay for the cost of clerical service be charged for all permits.

If the building bureau becomes a part of the department of public works as herein recommended, all building permits should be issued by the central permit division of that department, each permit issued being first approved by the head of the bureau of building inspection.

A New Form of Building Permit Suggested.

In order to facilitate the co-operation of the police and fire bureaus in the control of building operations, it is suggested that permits for all such work be issued in the form of placards. Contractors should be required to post such placard permits in conspicuous places, and a failure to display a placard should be taken to indicate a failure to obtain a permit and a consequent violation of the building ordinance.

Inspections.

The inspection force of the bureau of buildings consists of three general building inspectors, a plastering inspector, a smoke inspector, an inspector of combustibles, and two minor inspectors who assist the inspector of combustibles. The city is at present divided into four inspection districts for building inspection, and the three building inspectors and the plastering inspector are responsible for all inspections in connection with building operations in each of these divisions.

With the general reorganization of the bureau there should be a complete reorganization of the inspection division. The making of all kinds of building inspections by one group of inspectors is as it should be, since it avoids the unnecessary duplication which results from the employment of special inspectors for each type of service required. In the reorganization proposed, the inspection force should be such as to permit of at least one inspector for each permit issued for building

operations. In this connection it is suggested that better results would follow from having the inspectors alternate in the various inspection districts from day to day. There should be definite routes to cover each day, and a failure to complete a day's work should necessitate more work on the following day. In this way the efficiency of the force may be kept up and there will be no leaving of work for the next man to pick up.

The bureau of building inspection makes no attempt to inspect elevators. The only inspection that is made is that of the insurance companies. This method is satisfactory providing the insuring of every elevator is made mandatory and the certificates of only reliable insurance companies are accepted; otherwise it is not a safe policy. Not only should certificates of reliable insurance companies be required, but notices should be posted in elevators certifying relative to the last inspection and showing the date thereof.

Complaints Not Well Handled.

Most of the complaints are received over the telephone and are then typewritten on blank cards which are given to inspectors for report. When the cards are returned to the office, they are filed by streets without reference to the nature of the complaint. No record is made thereon of the steps taken to inform the complainant of the final disposition. It is suggested that all complaints be classified according to kind and filed according to such classification. The record of the complaint should also be revised to show the nature of the complaint, the name of the complainant, the result of inspection, the final disposition, and the signature of the inspector making the investigation.

A Modern Filing System Recommended.

The present filing system is inadequate. Building plans which are kept by the bureau are rolled and placed in metal tubes. Miscellaneous reports, such as reports of special inspections, etc., are filed in old style wooden filing cases by wards. There is no index in connection with any of the files and no filing classification. It is recommended that flat horizontal files be used in place of the tubes so that the plans may be preserved flat in orderly form for reference. All filing should be according to a definite classification, carefully worked out and adopted as standard. A complete index should be maintained currently.

BUREAU OF HEALTH.

GENERAL ADMINISTRATION.

General Purpose of the Organization.

Although the activities of the health bureau may be divided along certain definite lines of service, yet close study of the work of the bureau indicates that the health officer has endeavored to create a responsible and responsive organization in which definite division or lines of service are not hampering to efficiency and to his own personal and direct control of employees. One of the chief difficulties in health administration through closely defined and limited bureaus has been that the improvement in supervision which may have resulted, has often been at the expense of the work to be done. There are times when it is necessary to mobilize the entire force for the carrying out of certain emergency measures, and too close adherence to divisional lines of service prevents prompt and effective work. The sanitary inspector, the plumbing inspector, the school nurse, or health physician, has each his own special field; but any organization which too closely defines and limits these fields and makes it difficult for the health officer to use them all promptly in any field where workers are needed in all probability will look well upon a graphic chart but fail in effectiveness in health control.

The graphic outline of the organization of the health bureau does not adequately represent the existing conditions. While these divisions do exist as shown, yet the health officer does not lay great stress upon them. The present efficiency of the Rochester health bureau is due largely to the health officer's insistence upon the principle that health service, regardless of its particular designation as child welfare, medical inspection, sanitary inspection, or what not, should be the purpose of the organization. The result has been that the health officer, instead of relying upon the reports of the supervisory officers of the various groups, exercises a direct and personal supervision over the work of his subordinates. In a large health department it is not only difficult, but often impracticable for the health officer to supervise the work in person, and supervisory powers are therefore delegated to division heads. In the Rochester health bureau, however, this delegation of supervisory powers has not yet been considered necessary. Therefore, no radical changes in organization are suggested, for it is believed that the present efficiency of health service in Roch-

ester should not be placed at the mercy of experiments in organization.

Department of Health and Charities Recommended.

Although in point of service, there is a very close correlation of the work of the health bureau and the department of charities, under the present organization, these two branches of service are entirely separate from the standpoint of administrative control. The health bureau is a bureau of the department of public safety and the health officer is directly responsible to the commissioner of public safety. The department of charities is an entirely independent unit, and the commissioner of charities reports directly to the mayor.

The problems of health and poor relief are very closely allied, in fact inseparable. Poverty is as often the cause as the result of ill health, and any plan for the prevention or relief of poverty must consider primarily the health of the individuals concerned. Under the present organization of the bureau of health and the department of charities, this fact has been recognized in a practical way. The city physicians, though under the supervision of the health officer, are required to care for in their homes, such cases as may be referred to them by the commissioner of charities. For improved administrative control, however, it is recommended that the bureau of health be removed from the department of public safety and that a department of health and charities be created embracing the present bureau of health and the present department of charities which should become, under the reorganization scheme proposed, a bureau of charities, co-ordinate with the bureau of health and under the supervision of a director or superintendent of charities. For the sake of uniformity of nomenclature, the titles of director of health and director of charities are suggested. The organization of the department of health and charities may be briefly outlined as follows:

Department of Health and Charities.

Bureau of Health
Director of Health
Bureau of Charities
Director of Charities

It would be possible under such a reorganization plan to correlate more closely the work of the bureau of health and bureau of charities. Nurses, physicians, sanitary inspectors, and other employees would be better able to attack their individual problems because of wider comprehension of the whole problem of social welfare and the cooperation between city welfare service and that which is provided

privately would be made more effective because of the more centralized responsibility of the city authorities.

In order to put this recommendation into effect, it will be necessary to amend the charter which provides for a commissioner of charities who shall be the head of the department of charities, and that the health bureau shall be in the department of safety. The further provisions of the charter, however, regarding the health officer, the appointment of experts by the health officer, charges and trials of health officer and subordinates, etc. should not under any circumstances be tampered with. The large power and responsibility of the health officer under the present charter is well calculated to secure efficiency by removing the health officer from the sphere of political influence.

Physical Conditions at the Health Bureau.

The old school building, the interior of which has been remodeled for the use of the health bureau, is not only well located, but well adapted to its purpose. The health officer has so arranged the various offices that they are easily accessible to the public, but not so easily accessible that they may become public lounging rooms. The health office is a business office and is conducted as such. There is no lounging about, either by employees or visitors.

Especially noteworthy was the general cleanliness and orderliness of the offices. This in itself is worthy of the highest commendation—not only as an example to the citizens who may visit the health office, but also as an indicant of the general efficiency of service.

The Health Officer.

Long tenure of office of the health officer, provided he is progressive and efficient, is one of the essentials of good health and administration. Rochester has been exceedingly fortunate in having at the head of its health bureau the same efficient health officer for twenty years, and fortunate also in having commissioners of public safety who have aided rather than hampered his efforts.

Still another essential of good health administration is full-time service. The salary of the present health officer is \$3,000, which is by no means sufficient recompense for full-time service by a trained and efficient health officer. The health officer states, and the observations of the investigator confirm his statements, that he gives practically full time to his work as health officer, but that he still has a few private patients. It should be a requirement that the health officer devote his entire time to the city service and discontinue all private practice. In order that this will not entail a hardship upon the health officer

and as a recognition of the real value of his services, an increase in his compensation would be appropriate. No greater service can be rendered to any community than that which is rendered by the health bureau. Rochester has achieved an enviable reputation among cities for the efficiency of its health service and the city owes much of its progress and growth, commercially and otherwise, to the fact that it has a reputation for health. The credit for this work must be given to the official who has made health service in Rochester what it is.

The Deputy Health Officer.

The deputy health officer, who is a part-time employee, assists the health officer in the examination of persons applying to the health office for advice or treatment: makes investigations of special cases as assigned by the health officer, and supervises under the direction of the health officer the routine work of the health physicians. He receives a salary of \$1,800, which, so far as can be ascertained from the statements of the health officer and deputy, is a proper compensation for service rendered. There are no records, however, which will show the amount of time spent by the deputy health officer in the discharge of his duties, and it is therefore recommended that this officer be required, like other employees, to submit a daily report of service rendered. Full-time service for the deputy health officer is not urged, because it is not believed to be necessary, provided the health officer is made a full-time officer at an adequate salary. The health officer states that he considers the deputy health officer to be on call duty at all time and that no difficulty in securing prompt service has arisen.

General Clerical Service.

The clerical and stenographic work in the bureau is very efficiently performed by a small staff: one stenographer, a chief clerk and one assistant make up the office force. Thorough discipline and order are evident at all times, and the courtesy of the office employees in dealing with citizens is especially worthy of commendation.

The records of the chief clerk show, not only an excellent conception of the value of detail in record-keeping, but also considerable ingenuity in devising forms to obtain the information desired. The financial records, which are kept by the chief clerk, are carefully kept, all items of expenditure being segregated according to the various functions of health service performed.

Reports to the Commissioner of Public Safety.

A formal monthly report is submitted to the commissioner of public safety by the health officer. This consists merely of a brief sum-

mary statement of the work of the various divisions of health service, including the municipal hospital. This monthly report is supplemented, however, by frequent letters from the health officer to the commissioner of public safety regarding various problems of administration and health service. Copies of these letters are retained by the health officer and pasted in a scrap book, so that these letters furnish a good index to the work of the health bureau during the year. The following analysis of the subject matter of these letters shows that this method is calculated to keep the commissioner of safety well informed as to work of the health bureau:

Date of Letter	Subject
January 4	Smallpox in Rochester
" 6	Death of an employee
" 7	Order for commissioner's signature
" 7	Dropping name of employee from payroll
" 7	Smallpox danger
" 8	Smallpox danger
" 8	Names of those delinquent in reporting births
" 9	Diphtheria immunity
" 12	Report on lodging houses
" 12	Outbreak of smallpox
" 12	Repairs and improvements at health office
" 13	Report on smallpox
" 14	Vaccination in parochial schools
" 18	Report on smallpox
" 19	Report on smallpox
" 21	Little Mothers' Congress
" 26	Smallpox
" 28	Increase of salaries of certain employees
" 28	Report on smallpox
" 28	Copy of letter sent to physicians delinquent in reporting
" 29	Request for new automobile
" 29	Painting municipal hospital
" 29	Prevalence of pneumonia.
" 29	Rabies

It is apparent, however, that this method of keeping the commissioner of public safety informed as to the work of the health bureau could be simplified by embodying all the information contained in the several letters of a single day in one daily report to the commissioner of public safety, which would contain not only a statement of the routine work of the previous day, but also such additional information as the health officer may deem of value to the commissioner. This would also simplify the work of the commissioner of public safety in informing himself regarding health activities and needs. The monthly report should be continued as now, a brief resume of the month's work.

Conferences With Employees.

The health officer is to be commended for his effort to keep thoroughly in touch with the work of his employees and with the conditions in the field, and to keep his employees informed as to the general program and policy of the bureau. Weekly conferences are held with the various groups of field workers. Sanitary inspectors meet with the health officer each Friday for discussion of problems relating to their special duties, nurses are required to meet with the health officer on Saturdays, in order that the work of the week may be gone over and discussed and a program of further work outlined, medical inspectors are required to meet the health officer on Monday of each week to talk over problems of mutual interest. Such conferences are of the greatest value, not only to the health officer in working out his public health program, but also to the employees of the department by keeping them in touch with what is going on in other lines of public health service and ways in which their own work may be brought into coordination with the work of others.

Book of Rules Recommended.

The health officer prepares daily or special instruction sheets for his employees as may be necessary, and these are posted for the information of employees. In addition to these special regulations, it is recommended that the health officer prepare and print the rules of the department governing hours on duty, conduct while on duty, personal appearance and neatness, method of making out report, leaves of absence, vacations, etc., and that each employee be given a copy of these rules and be held rigidly to their observance by means of efficiency rating cards to be hereinafter described.

Sanitary Code Should Be Revised.

No real attempt has been made to codify the health ordinances, rules, and regulations of the city of Rochester since 1905. Such work is especially needed now, since the promulgation of the state sanitary code, May 1, 1914. Many changes have been effected in the state's health regulations by this new code, and with but very few exceptions the provisions of this code are effective in Rochester. It is recommended that a new sanitary code be prepared for the city of Rochester and that this follow as closely as possible the health regulations, as set forth in the state's sanitary code, in order that there may be as little difference as possible, either in text or interpretation, between the state and local codes.

Daily Reports Unsatisfactory.

All employees of the health bureau, except the health officer, the deputy health officer, the registrar and the clerical employees of the office, submit daily reports of service performed. These daily reports are turned in each morning to the clerk, who checks them up to see that all have been turned in and then submits them to the health officer. They were designed especially for the use of inspectors and call for the following data:

Name of inspector.

Date.

Time of arrival at office.

Time of leaving office.

Address visited.

Purpose of inspectors or visit—Remarks (Result).

Expense incurred.

Total inspections or visits.

Total expense incurred for the day.

Analysis of these reports show that they are of little service in keeping the health officer informed as to the movements of his inspectors. The working hours of the health bureau are from 8 a. m. to 5 p. m. Inspectors arrive at the office at 8, according to their daily reports, and usually leave at 9. It is assumed that the hour between 8 and 9 is taken up by the inspectors in writing their reports of the previous day's work. There is nothing on the daily report, however, to indicate how this time was consumed. In many instances the inspectors do not leave the office until after 9. That the health officer has recognized these facts and is endeavoring to improve the situation, is evidenced by the following orders:

“To the sanitary inspectors (March 28, 1914):

I have asked that you leave the office not later than 9 A. M. and 1:30 P. M. It is not necessary to remain in the office until 9 o'clock unless the writing of reports requires it. If there are no reports to be written, it is not necessary to remain in the office at all. It ought to be perfectly clear that the work of the sanitary inspector should be done in his district.”

“To the sanitary inspectors (April 10, 1914):

Hereafter unless something detains you I wish you would arrange to leave the office at 8:30. When there are few reports to be made out, it seems that this is ample time to spend in the office.”

The reports which are made out by sanitary inspectors are simply the daily report form previously described. The making out of these reports should not require more than five minutes' time. San-

itary inspectors are required to make out their reports of investigation on communicable disease record cards. The inspectors carry notebooks, in which they jot down the information required for the record. It is necessary, therefore, to transcribe this information each morning at the health office. It would seem advisable to cut down the clerical work required of inspectors as far as possible. This could be done by requiring that inspectors make out the permanent communicable disease record card on the spot at the time of investigation. There would then be no necessity of their remaining in the office an hour or more each morning for the purpose of transcribing their records from notebooks to cards. Plumbing inspectors make out, in addition to the daily reports already mentioned, a report of visits made for the purpose of inspection and this is entered upon the application form which is filed by the plumber when he begins work. The amount of clerical work required of the plumbing inspector is very slight indeed. There is apparently no reason at all why plumbing inspectors should spend any more time in the office than is necessary to obtain their assignments for the day.

. The following instances selected from among many, show the need for an improved daily record of service:

One inspector omits to set down upon his daily record the time of arrival or departure from the office.

Another inspector reports only the address of the place visited, and under the heading of "Remarks" enters the word "special," the purpose of the inspection or visit having been omitted entirely.

Another inspector remained at the office until 9:45 A. M. but gives no explanation.

Another inspector reports simply that he was "looking up manholes, 8 to 12 A. M." but gives no explanation of the purpose of such inspection.

While to the immediate supervisor, chief inspector, or other person in charge of inspection, it may be clear from such daily reports that work is being properly done and according to order, yet to the health officer, who must ultimately pass upon these reports, they are of little value. It is therefore suggested that complete and detailed instructions be given inspectors and others regarding the proper filling out of daily reports and that the method of filling out these reports be considered in determining the efficiency ratings of the various employees—demerits being given for failure to fill out these records properly.

The importance of a complete and properly filled out daily record cannot be over-estimated. Not only is it valuable to the inspector in keeping him up to the mark, but it furnishes the department with a valuable record of each day's activities. Occasions are frequent when it is necessary to know where an inspector was and what he did on a certain day. The daily record supplies this information.

In view of the fact that inspectors find it necessary to use valuable time in making out these daily report slips, it is recommended that a slip of the following general description be prepared. This suggested form is partially filled out to show what is intended in the way of information.

Report of _____			Date _____ 191_____		Action Taken	Ticket Expense
Time.	No.	Street.	Purpose of Visit	Remarks		
8 A. M.	—	Office	Preparation of special report on _____			
8:25	—	Front	Complaint of unsanitary premises		Order	1
8:45	—	W. Main	Complaint of unwholesome meat		270 lbs. condemned	1
Total hrs.	Total visits.		Use reverse of this sheet if necessary			Total expense

These slips should be about 4½x8 inches in size and bound in a book which the inspector can carry in his pocket. The left margin of these slips should be perforated so that they may be torn out at the close of the day and handed over to the clerk for submission to the health officer. This would render it unnecessary for the inspector to use valuable time in writing up these reports from his memoranda in the morning.

Time Clock Needed.

It is recommended that a time clock be installed at the main entrance to the health office, in order that the health officer may be informed of the exact time of arrival and departure of employees. The health officer has recognized the need of a time clock and has suggested at various times that one be purchased, but as yet his request has not been approved. The only record of the time of arrival and departure of employees is that found on the daily reports. As previously shown, these reports are inaccurate and incomplete, and no matter what type of daily record is used, there is always opportunity for the incompetent or irresponsible inspector to make the records read well. In determining the efficiency of employees, promptness and punctuality on duty are important factors, and a time record

which cannot be anything but accurate is of great assistance to the health officer in determining the efficiency of his employees.

Improved Efficiency Records Recommended.

The clerk of the health bureau has devised a daily summary sheet which is made up from the inspectors' daily reports. On this sheet he indicates opposite the name of each inspector the quantity of work performed daily. Each visit, inspection, sample, or specimen collected is called a "point" and the comparison thus made of quantity of work performed by various inspectors is submitted to the health officer each day. There are several other factors, however, which are important in determining efficiency, such as quality of work performed, personal conduct and appearance, punctuality, discipline, and obedience to rules, etc. Each one of these factors, if desired, may be broken up into several subfactors. If, as suggested, employees are thoroughly informed as to the rules of the health bureau and the proper method of reporting, and if the daily report card system and time recorder are installed in the health bureau, a substantial working basis will have been laid for a simple and effective rating. Some sort of efficiency rating is essential in determining the advisability of salary increases, which is at present a matter of considerable concern among health bureau employees, and no salary increases can be provided with fairness, unless there is evidence supporting the health officer's request for increases for his employees. It is therefore recommended that each employee be given an efficiency rating card on which his general efficiency may be recorded each month, memoranda being made of any particular instances of excellence in work or department. The chief factors upon which this efficiency rating should be based are:

Quantity of work.

Quality of work.

General conduct and deportment.

Attendance and punctuality.

This record would need to be carefully worked out by the health officer as to detail and the weights to be given the factors and subfactors into which the chief factors might be divided. For the present, however, it is suggested that this record be made as simple as possible, in order not to require too much clerical work on the part of the health officer or his assistant. The health officer now, from his close and constant contact with his employees, has in his own mind rated his employees as to efficiency, but a record which would substantiate this is very desirable.

PREVENTION OF COMMUNICABLE DISEASES.**Diseases Reportable Specified by State Sanitary Code.**

The state sanitary code, taking effect in May, 1914, provides that the following diseases shall be reported by physicians within twenty-four hours of the time when the case is first seen:

- Anthrax,
- Chickenpox.
- Cholera, Asiatic.
- Diphtheria (membranous croup).
- Dysentery, amoebic and bacillary.
- Epidemic cerebro-spinal meningitis.
- Epidemic or streptococcus (septic) sore throat.
- German measles.
- Glanders.
- Measles.
- Mumps.
- Ophthalmia neonatorum.
- Para-typhoid fever.
- Plague.
- Poliomyelitis, acute anterior (infantile paralysis).
- Puerperal septicaemia.
- Rabies.
- Scarlet fever.
- Small pox.
- Trachoma.
- Tuberculosis.
- Typhoid fever.
- Typhus fever.
- Whooping cough.

The health bureau supplies physicians with post cards for the reporting of communicable diseases. The list of diseases as specified on these cards, however, does not correspond to that which has been recently specified by the state as described above, the following diseases being omitted from the list as specified by the health bureau.

- Cholera, Asiatic.
- Dysentery, amoebic and bacillary.
- Epidemic or streptococcus (septic) sore throat.
- Glanders.
- Plague.
- Rabies.
- Typhus fever.

While many of these conditions are rarely found, and if found probably would be reported, it is recommended that the health bureau have notification cards printed which will contain the list as specified by the state sanitary code. This may be supplemented by such additional diseases as the health officer may require. This the health officer has already done by requesting physicians to report cases of gonorrhea and syphilis which may come to their attention.

Efforts Made to Improve Reporting of Communicable Diseases.

The report of the health officer to secure prompt and accurate reporting of communicable diseases is especially noteworthy. Reporting by telephone is permitted, but this is done simply to facilitate control of diseases. The law requires that reports shall be made in writing, and every effort is made by the health officer to see that the law is observed. When physicians are delinquent in this matter the following notice is sent to them.

“ Dear Doctor :—

For many years it has been the custom of the Health Bureau to ask for reports of infectious disease in writing. For this purpose cards are provided by the Health Office and will be mailed to you upon application. The only reason that telephone messages are received by the office is that reports of cases may be received earlier than by mail and in order to facilitate the carrying out of the provisions of the law relating to contagious diseases. In a few cases confusion has arisen from the fact that physicians understand that the report of a contagious disease by telephone constitutes an official report. Under the law this cannot be construed as an official report; for the Public Health Law of the State distinctly states that such reports shall also be made in writing.

Will you please make reports of infectious diseases in WRITING ?

Respectfully yours,

G. W. Goler, M. D.,
Health Officer.”

The health officer states that physicians have responded well to the efforts of the health bureau to secure cooperation. The importance of such cooperation can hardly be overestimated, since all preventive health service in control of communicable diseases depends primarily upon knowing where the diseases exist and for this information the physicians of the community must be depended upon.

Investigation of Communicable Diseases and Method of Recording Their Prevalence.

Cases of measles, scarlet fever, diphtheria, typhoid fever, cerebrospinal meningitis, and smallpox, which are reported to the health

bureau by physicians, are assigned to sanitary inspectors for investigation according to their particular district assignments. The results of these investigations are entered upon cards which the inspectors carry with them. The investigation requires definite information regarding the disease, length of illness, sanitary conditions of the premises, milk supply, and other facts needed by the health bureau in exercising control of the patient and others in the family. These cards when returned by the inspector are filed according to the streets in which the patients reside. This record system is very well devised and it is kept in good order.

In addition to the record just described, a large street register is kept which shows for each street in the city a complete record of each case of communicable disease reported from such street, together with a record of orders issued for the abatement of any nuisance existing at addresses in these streets under the following headings:

Date of report.

House numbers.

To 100.

100 to 200.

200 to 500.

500 up.

Name of patient or owner of property.

Physician or complainant.

Date of inspection.

Diseases:

Scarlet,

Diphtheria,

Tuberculosis,

Typhoid,

Measles,

Other.

Sex.

Age.

Time allowance.

Isolation ends.

Milk supply.

School.

Orders or special directions.

Disposition—remarks.

This record also is well devised and it is kept in excellent condition. It furnishes complete information regarding communicable diseases and nuisances existing in the various localities of the city, and

furnishes a valuable index as to the relation, if any exists, between unsanitary conditions and the prevalence of communicable disease.

Pin Maps of Prevalence of Disease.

All cases of scarlet fever, diphtheria and typhoid fever which are reported to the health bureau are indicated upon a map of the city by the chief sanitary inspector. This map is kept up to date daily and furnishes a valuable means of visualizing the problem with reference to these three diseases which are the most important and most prevalent under ordinary circumstances.

Placarding and Isolation.

On their visits of investigation, as previously described, the sanitary inspectors placard houses where measles, scarlet fever, diphtheria, typhoid fever, or cerebro-spinal meningitis exists, if the patient is to be cared for at home. If the sanitary inspector finds that conditions are such as to make home care difficult or inadvisable, the facts are laid before the health officer who at his discretion may order the removal of the patient to the Municipal Hospital.

Isolation for communicable diseases is a matter which must depend largely upon the good judgment of the health officer. The imposition of a strict quarantine upon a household is not only often unnecessary but sometimes works an undue hardship upon the wage earners of the family. The health officer of Rochester does not follow any hard and fast rules for isolation of the affected individuals and their families, but determines in each case what precautions are necessary and how they should be observed. This is the common sense and efficient way of dealing with communicable diseases and the health officer is thoroughly competent to deal with any situation which may arise in the control of communicable diseases.

The isolation period for the communicable diseases varies with the disease. The minimum period of isolation for certain communicable diseases has been fixed by the recently adopted state sanitary code. The minimum period of isolation in each case is based upon certain constant symptoms occurring in the course of the disease. For example, the minimum isolation period in scarlet fever is until thirty days after the development of the disease and until all discharges from the nose, ears, throat or suppurating glands have ceased. In the Rochester health bureau the minimum period of isolation for communicable disease is based upon the physician's statement as to the onset of the disease, and his certification to the health bureau in writing that the isolation period has expired. For example, if a phy-

sician is called to see a patient suffering from scarlet fever and he is informed that the disease began a week prior to his visit, the date of onset as reported to the bureau is set as one week prior to the physician's visit and release from isolation will be granted by the health bureau after the proper period has elapsed from the supposed date of onset. This is a somewhat uncertain way of fixing the isolation period. The physician in private practice is continually beset by his patients who may be subject to isolation because of communicable diseases to have release from such isolation. Owing to the importunities of his patient whose interests his own practice requires him to consider, the physician is frequently tempted to make the isolation period fit as nearly as possible the patient's demand. To shorten the isolation period, therefore, it is necessary for him to place the date of onset a few days backward. It is recommended, therefore, that the period of isolation be made to conform with the requirements of the state sanitary code and that physicians be notified of the change in procedure which is made necessary thereby.

Exclusion from School.

As soon as a case of diphtheria, scarlet fever, measles, cerebrospinal meningitis, chickenpox, mumps, or whooping cough is reported and an investigation has been made by a sanitary inspector, the superintendent of the school attended by the patient or others in the family is notified that such children may not be admitted to school without the certificate of the health officer. The duration of exclusion is dependent entirely upon the findings of the health officer in regard to the particular case. If doubt exists in his mind as to the advisability of allowing children to return to school, a special investigation is made to determine whether further exclusion is warranted. Exclusion in the case of diphtheria patients depends entirely upon the laboratory findings on examination of culture from the throats of the patients and those exposed. No fixed rule can be laid down regarding exclusion from school, since each patient presents his own individual problem. The method now practiced by the health officer, however, furnishes a thorough safeguard without unduly interfering with the school progress of children.

Special Procedure of Diphtheria.

The health officer has detailed one inspector to the work of investigating all cases of diphtheria and of taking diphtheria cultures for laboratory examination. This inspector covers the entire city and is on duty all hours day or night. In summer a motorcycle, which is

supplied by the health bureau, is used while in winter the inspector uses a horse and carriage when necessary.

As soon as a case of diphtheria is reported to the health bureau it is referred to the inspector who visits the home of the patient immediately and takes a culture from the nose or throat of the patient as necessity requires. Physicians rarely send in cultures, although cultures taken by physicians are accepted and examined in the same way as those brought in by the diphtheria inspectors. The health officer has wisely taken the position that best results can be obtained by detailing one inspector to the work of taking cultures. Not only does this insure uniformity of procedure in the taking of cultures but also prevents cultures being taken improperly or upon unsatisfactory media. The diphtheria inspector carries with him at all time freshly made tubes of media. From long experience in taking cultures he is particularly qualified to perform this work and is able to keep the health officer well informed as to the home conditions and surroundings of the patient.

Ten days after the first culture has been taken by the diphtheria inspector, a second culture is made. If the second culture is positive, a third one is taken five days later. Before any patient may be released from isolation, two successive negative cultures taken twenty-four hours apart must be obtained. This insures, so far as it is possible to insure, that the patient is no longer capable of transmitting the disease to others and eliminates to a large extent the danger from diphtheria carriers, i. e., those individuals who are without apparent signs or symptoms of diphtheria but who still carry in their throats active diphtheria bacilli, capable of producing the disease in virulent form in other persons with whom they may associate.

The diphtheria inspector finds considerable difficulty in getting about by motorcycle, or by horse and carriage in winter, particularly on the outskirts of the city where much of his work is done. It is recommended that an automobile be purchased for the use of the diphtheria inspector and for such other use as may be required by the health bureau. The health officer has an automobile for his own use but this should be kept exclusively at his service.

Fumigation Following Communicable Diseases.

The most recent studies of the effect of fumigation following contagious diseases has resulted in an abandonment of many practices formerly thought to be effective in preventing the spread of diseases. Not only has routine fumigation for contagious diseases been found to be a very expensive item of health department work, but the re-

sults secured from routine fumigation as ordinarily performed have by no means been found worth the cost in time and money. The present procedure of the health bureau in not providing fumigation of premises except upon special request or in such cases as the health officer may deem it advisable is to be commended.

Registration and Control of Tuberculosis.

The health bureau furnishes physicians with report cards on which they are required to report cases of tuberculosis coming under their observation. The public health law of the state (sections 323 to 330, both inclusive, of Article 16) requires that the local health officer transmit to physicians reporting cases of tuberculosis, copies of a form prescribed by the state commissioner of health called a "Statement Concerning the Procedure and Precautions to be Taken on the Premises of a Tuberculosis Patient by the Attending Physician or by the Local Health Officer." The law further states:

"Upon receipt of such statement and report the physician shall either carry into effect all such procedure and precautions as are therein prescribed, and shall thereupon sign and date the same and return it to the local health officer without delay, or, if such attending physician be unwilling or unable to carry into effect the procedure and precautions specified he shall so state upon this report and immediately return the same to the local health officer, and the duties therein prescribed shall thereupon devolve upon said local health officer who shall receive the fee hereinafter provided as payment of the services of the physician if he comply with the duties herein prescribed. Upon the receipt of this statement and report the local health officer shall carefully examine the same, and if satisfied that the attending physician has taken all necessary and desirable precautions to insure the safety of all persons living in the apartment or premises occupied by the persons having tuberculosis, the said local health officer shall issue an order upon the treasurer of the city, town or village in favor of the attending physician, except where such physician is employed by and receives a salary from the state of New York or is employed by and receives a salary from a hospital, sanatorium or other similar private or public institution in the state of New York, for the sum of \$1.00 thereupon to be paid out of a fund which shall be provided by said city, town or village."

This procedure has been followed out by the health officer as prescribed by law. Reports from physicians have been received by the health officer and have been filed in an envelope bearing the name of the patient and such other data as are necessary for identification. This file contains eight hundred of these reports dating back to 1909. No fees have been paid, however, to the physicians who made the re-

ports because no fund or appropriation has been provided by the city as the law directs.

The file contains both living and dead cases and has not been revised and brought up to date. When reports of deaths from tuberculosis are received, however, one of the sanitary inspectors makes a visit to the residence of the deceased and fills out a record giving the facts as to illness, home condition, etc., and recommends what further precautions are to be observed.

It is recommended that the file of tuberculosis reports be gone over and revised by the elimination of the "dead" and "removed" cases and that effort be made to keep this record currently to date. The facilities for obtaining information regarding the existence of cases of tuberculosis in Rochester are excellent, through the city physicians, county sanatorium, public dispensaries, school nurses and social workers of private organizations and it would be possible to make and keep a very effective register of tuberculosis, which would be of considerable value to health physicians and nurses. It is further recommended that an appropriation be provided by the city, as required by law, for the payment of the fees due physicians for reporting cases of tuberculosis, and that a cash fund be placed in the hands of the health officer which he may use for the immediate payment of physicians for their services in this matter. The physician who knows that he will not have to wait several months for his payment but will receive his money on the spot is quite willing and even anxious to report promptly. This means better reporting and more prompt control of tuberculosis cases. The health officer considers that this delay on the part of the city in paying physicians for their time and trouble in rendering these reports is responsible for much of the difficulty experienced in getting the ready cooperation of physicians.

The health bureau cooperates with the Public Health Association, with the County Tuberculosis Sanatorium and other agencies in securing registration of tuberculosis patients and in providing proper care and treatment for them. Few cities in this country have such splendid facilities for caring for tuberculous persons, and we believe that satisfactory progress is being made in the care of these patients. The ultimate success, however, of any plan of registration and control of tuberculosis depends primarily upon the cooperation of private physicians who are the first to see the great majority of cases. To secure such cooperation it is essential that physicians be compensated as the law requires for reporting cases of tuberculosis, for although there is not, on the part of any reputable physician or group of physicians, a desire to conceal cases of communicable disease, yet lack of recogni-

tion of their efforts to comply with all the requirements of the state law cannot fail to hamper registration and control by the health authorities.

Supplies Furnished Physicians for Prevention of Tuberculosis.

The public health law requires that the health officer shall furnish requisition blanks to physicians upon which they may specify the supplies needed in carrying out the procedure and precautions prescribed by law. The supplies furnished are sputum cups, disinfecting material, waterproof bags for holding contaminated articles, paper napkins, cup holders and such other articles as the health officer may consider proper. These requisitions are signed by the physician and endorsed by the health officer as approved and delivered. In 1914 the total amount expended for supplies furnished in this way was only \$127.50.

Examinations of Sputum.

Physicians are furnished every facility for the prompt examination of specimens of sputum which they may send to the laboratory of the health bureau for diagnosis. These sputum examinations are an exceptionally valuable aid to the physician in diagnosis and to the health bureau in obtaining more complete registration of tuberculosis.

Control of Rabies.

Whenever it is reported to the health bureau that a person has been bitten by a dog, an inspector from the health bureau visits the case, and if possible, secures the dog, which is turned over to the Humane Society for detention and observation, to determine whether the animal is rabid. A record is kept in a register at the health bureau of each person bitten by a dog, the disposal of the animal, and the final report of the Cornell University laboratory to which specimens are sent for diagnosis if the animal shows symptoms of rabies.

In 1914 thirty-eight positive cases of rabies in dogs were discovered in the city of Rochester. Up to April 15, 1915, five cases of rabies in dogs had been found.

The ordinance recently adopted (April 20, 1915) states that, "whenever the mayor shall deem it necessary, he may make an order declaring that the city is quarantined as to dogs. During the period of such quarantine, a dog not securely muzzled with a basket muzzle shall not run at large, be in or upon any street, alley, park, or public place within the city of Rochester." From the wording of this ordinance it is assumed that quarantine of dogs will be declared only

when evidence is presented to the mayor which will demonstrate the necessity of quarantine and muzzling. The fact that rabies now exists in the city of Rochester as proved by the records on file in the bureau of health is sufficient evidence for the establishment of quarantine at the present time. It is recommended, therefore, that the mayor declare, in accordance with the provisions of the ordinance, a quarantine of dogs, and that muzzling of dogs be enforced immediately—or better still, that the ordinance be amended so as to require simply that all dogs be muzzled when upon the streets or public places of the city. Preventive health service demands that nothing be left undone to secure citizens against dangerous disease. To declare a quarantine only when rabies is so prevalent as to constitute an epidemic is not prevention in the best sense of the word. No insurmountable difficulties can be met with in enforcing such a muzzling ordinance. The city of New York has and enforces an ordinance which declares simply that "No unmuzzled dog shall be permitted at any time to be on any public highway or any public park or place in the city of New York."

Prevalence of Communicable Diseases in Rochester.

As stated by the health officer in his annual report for 1913: "It is a fairly well known fact that infectious diseases are cyclical in character. This is, measles prevails about every other year in most communities: whooping cough behaves in about the same way; diphtheria has a cycle of from four to six years; scarlet fever rises and falls in many instances as does diphtheria; and typhoid fever has a spasmodic rise whenever a municipality becomes careless about its water, or 'carriers.'" Recognizing these facts the health officer has not laid claim to any remarkable lowering of the morbidity and mortality from these diseases, although as a matter of fact the records of the health bureau for the past year are quite capable of being used to the credit of the bureau. Certain important facts, however, are emphasized by an analysis of these records, which confirm the statements of the health officer regarding the cyclical character of the diseases and show clearly the importance of a proper conception of the nature, causes, and results of the diseases upon the community. These facts are so important to the city of Rochester and so clearly stated in the health officer's report for 1914, that a portion of the annual report is herewith quoted:

"INFECTIOUS DISEASES.

"WHOOPIING COUGH—There were reported 98 cases of whooping cough with six deaths. With us whooping cough is

usually more wide-spread in the odd than in the even years. The even years, therefore, represent a smaller number of cases and fewer deaths. Less than 100 reported cases is, doubtless, far below the actual number of cases that occurred, notwithstanding that the deaths were less than 6 per cent. of the reported cases. Whooping cough is a disease to which very little attention is paid, unless it is marked by great severity or by serious complications. An attempt has been made to get these cases to enter the hospital, but during the past year we have had but seven cases in the municipal hospital.

“MEASLES—With 1,674 reported cases, there were 13 deaths, of which sixty-four were treated at the hospital. Even years are usually marked by the greatest rise in this disease. The outbreak was noted for no great severity, as evidenced by the comparatively small number of deaths reported. In years gone by the mortality from this disease was largely concealed; many cases dying of terminal bronchitis or pneumonia were reported as dying from the terminal rather than from the invasive disease.

“The year in measles was marked by many attacks of ear infection. Among some of the physicians it was known as an ‘ear year’. Attacks of suppurative disease of the ear were very insidious, very often unattended with pain, the only sign sometimes being a rise in temperature or pulse followed by a discharging ear. Ear complications with measles and their late remote results, have never been adequately appreciated. A child with an attack of measles having a discharging and damaged ear, may recover a measure of health and hearing sufficient to enable it to go through the greater part of its life unhampered, but should it live it is likely to have its hearing more or less damaged.

“SCARLET FEVER—This is a disease with a cycle of from four to six years between its low and high points of incidence, although the mortality may be considerable in the years in which the disease is represented by a small number of cases. This year it lies midway between the high and low points, although it has a mortality of 5 per cent. of the reported cases. No infectious disease of child life impresses itself so strongly upon the child’s body or is manifestly so greatly in its late, remote results as scarlet fever. Probably no one of the common diseases of child life is so insidious in its action as scarlet fever. No other common disease is likely to damage the child’s body as much as scarlet fever. If measles is responsible for 10 per cent. of all the deafness in later life, scarlet fever is probably responsible for a much larger percentage of the heart, kidney and blood vessel diseases in that period when life holds so much that is both sweet and desirable. One of these days when we have classified the diseases of our children as we now index those of our cattle and hogs, we shall know something about the late, remote consequences of scarlet fever in childhood as revealed by the various forms of Bright’s disease and heart affections and the apoplexies of the period between 40 and 60.

“In attempting to prevent the spread of scarlet fever we have offered a hospital retreat to everyone with scarlet fever willing to

avail themselves of it. Last year (the third year since the hospital has been available) 12 per cent. of our cases of scarlet fever were treated in our hospital. In still another way we have attempted to prevent an outbreak of scarlet fever by discovering the center of scarlet fever through mapping the cases, and putting a nurse right into the district, having her go from house to house, cooperating with the physician in attendance in discovering cases and wherever possible trying to get them into the hospital.

"DIPHTHERIA—Of the 345 reported cases of diphtheria there were 29 deaths, a rate of less than $8\frac{1}{2}$ per cent., which is the lowest death rate from this disease for the city in ten years. These deaths include two patients brought into the city from out of town.

"The year was marked by a diphtheria of exceeding severity. Nearly 25 per cent of all the cases of diphtheria were treated in the hospital; of these (82 cases) 31 were laryngeal, 1 laryngeal and nasal, 1 septic, 27 pharyngeal, 19 bacterial, 3 pharyngeal and nasal. Several of these cases were marked by a beginning mild myocarditis, evidenced by slow pulse. A boy of 16 entered the hospital with a pulse of 60 and died four days later with a pulse of 20. Of the six cases of diphtheria (all but one of the laryngeal type) which we have seen within the last two years characterized by this prominent symptom of slow pulse, but one recovered.

"Two distinct advances have been made in the treatment of our cases of diphtheria during the past year. One is to popularize the early use of a large, single dose of antitoxin intravenously in severe cases, and the other is the early resort to intubation. To the real cooperation of the medical profession much of the actual results obtained in the treatment of diphtheria in the city must be due. To relieve the fear and to popularize the work of intubation, we have presented to each recovered child a gold plated intubation tube to be hung on a silken cord about its neck. In one district in particular, where we had been compelled to ask the police judge to hold court on the sidewalk in front of the house and commit to us a gasping baby of a year so that we might intubate it and administer antitoxin intravenously, and where we had great difficulty in securing the consent of parents to use antitoxin and intubate in severe cases of diphtheria, all our difficulties have been removed since the resort to the Public Health Law and the presentation of intubation tubes. We have had more cases come to the hospital from this district than from any other district in the city.

"TYPHOID—There were 114 reported cases of typhoid with 25 deaths. Four of these deaths were in persons brought into hospitals from out of town. A careful investigation of the water, milk and food supply of these cases failed to reveal any connection between the food and the disease. We are led to believe that the 'carrier' problem is a considerable one, and we are now engaged in investigating carriers with relation to typhoid.

"SMALLPOX—There were two cases of smallpox introduced from abroad during the year. There was no spread of the disease.

There could be, of course, no material spread of the disease as long as we vaccinate our people. What we have done to vaccinate them may be roughly shown by the fact that last year in examining more than 1,500 children at the age of 14 for working permits but 1 per cent. of them were unvaccinated. We believe that a large number of children are still unvaccinated in infancy and that the large number of unvaccinated young children constitutes a distinct menace to us.

"The smallpox epidemic cycle is believed to be about 18 to 20 years, and we are due for a great epidemic within the next five or six years, unless we can keep both our child population and our floating industrial population well vaccinated.

"PNEUMONIA—Of 184 reported cases of pneumonia 392 died.*

"TUBERCULOSIS—Of 401 reported cases of tuberculosis 226 died. These are examples of the manner in which these diseases are reported in accordance with the respect for American law.

"SOME OTHER INFECTIOUS DISEASES.

"SYPHILIS and GONORRHEA—There were but 13 deaths reported from syphilis, 7 of them under one year of age. No deaths were reported as directly due to gonorrhea, but 6 as due to salpingitis, and doubtless, most of these deaths were due to gonorrhea.

"LOCOMOTOR ATAXIA caused 10 deaths.

"RABIES—Rabies was epidemic during the year. Thirty-eight dogs were proven to be rabid. Twenty-four persons received Pasteur vaccination against rabies after having been bitten by proven rabid dogs. One boy, aged 12, died of rabies, the cause of his death from rabies having been proven by inoculation experiment at the New York Health Department Laboratory and at Cornell University."

Rats a Menace to Health.

The attention of health authorities throughout the world is now being directed toward the rat as a carrier of disease. It has been proven beyond a doubt that typhus fever, which is one of the principal diseases feared by quarantine officers at all our ports because of its prevalence in Europe, is carried by the rat. The disease is communicated to men by fleas which carry the infecting organism from animals to men. With the conclusion of the European war, immigration into this country will be greatly increased—and Rochester which, with the addition of Charlotte, will become important as a port of entry will be manaced as are other ports with the danger from typhus. A war of extermination against rats should be waged in Rochester and

* This indicates that reporting of pneumonia is by no means complete—for more cases died than were reported.

this the health officer has had under contemplation for some time. The fewer the rats the less the danger from typhus fever, and probably many other diseases, for the rat is also under suspicion as a carrier of other infections.

SANITARY SUPERVISION.

Duties of Sanitary Inspectors.

Each of the five sanitary inspectors is assigned to a district. In general the duties of the sanitary inspector are to investigate complaints of violation of sanitary regulations and to investigate cases of communicable disease reported to the health bureau. Each inspector is given a definite assignment of work each morning when he reports to the health bureau, and this assignment of work takes precedence over all other work. When the day's assignment of work is completed, however, he is required to begin house-to-house inspection in his district, beginning each day at the point of last visit on his regular assignment. In this way the entire district of the sanitary inspector is covered at least once a year. Other duties such as the inspection of restaurants and the inspection of bakeries prior to the issuance of a sanitary certificate by the health officer are performed as assigned by the health officer, but are not a part of the usual daily routine.

Investigation of Complaints.

The first duty of sanitary inspectors each morning is to investigate such complaints as have been received from citizens living in the districts in which they work. These complaints are usually received by telephone. The telephone operator makes out a duplicate record slip stating the person from whom the complaint is received or the premises requiring inspection, the nature of the complaint, and the inspector to whom the investigation of the complaint is assigned. The original of this slip is sent to the inspector assigned to investigation, while the copy is retained by the telephone operator who files it for her own reference in case of inquiry regarding it. A notice is then sent to the owner or agent of the premises complained of stating that complaint has been made and that an inspector will call to investigate. The inspector then makes investigation of the complaint. If the complaint is a proper one and well founded, he issues an order for the abatement of the nuisance on the spot. The order is made out in duplicate. The original is given to the owner or agent of the premises complained of, and the carbon copy is returned by the inspector to the clerk of the health bureau. The order which is issued to the owner or agent of the premises states the time which is allowed by the

health bureau for the abatement of the existing nuisance, and contains also the sworn statement of the inspector that he has properly served such order. The copy which is retained by the clerk of the health bureau is endorsed by him with the date on which abatement of the nuisance must be effected. When that day falls due the copy of the order is given to the inspector who makes a re-inspection and determines whether abatement of the nuisance has been effected. If not, he returns the carbon copy to the clerk with his endorsement to the effect that the nuisance is unabated. The clerk then transmits the copy of the order to the corporation counsel for prosecution.

If the complaint is with cause, record is made of the findings of the inspector, the order issued by him, and the final disposition of the matter in the street register which has been more fully described under the heading "Investigation of Communicable Diseases and the Method of Recording Their Prevalence" in the section of this report on "Prevention of Communicable Diseases." If, however, the inspector finds no cause for action and no order is issued, no further record is made of the complaint. The only record therefore which the department has of this complaint is the original memorandum kept by the telephone operator.

The handling of complaints is an extremely important matter, for the average citizen is much more interested in the way in which his particular complaint is cared for than in almost any other service which the health bureau may render. It is recommended that a record be kept in the street register not only of those complaints on which an order is issued but also of those complaints which may be found to be without cause for action. Such a record would be valuable in checking up the work of the inspectors. If a complaint should be frequently made and the inspector each time should report no cause for action or fail to issue an order, it would indicate either that the inspector was not making a proper inspection or that the complainant was making false complaints. In either case the inspector's work should be reviewed and a thorough understanding reached.

Although there is no evidence which in any way indicates collusion between inspectors and citizens, yet we do know that collusion does sometimes occur and that the inspector may be induced to report no cause for action when there is substantial cause. Under present circumstances such collusion is made possible by the fact that the street register does not show how many complaints reported upon by inspectors were with cause or without cause.

Improved Form of Memorandum Slip Suggested.

The duplicating memorandum slip now in use for recording com-

plaints as they are received at the health bureau calls for the following information:

- Date (received).
- Nature of (complaint).
- Complaint.
- Location.
- Owner or agent.
- Inspector.
- Date (assigned for investigation).

It is suggested that these slips require also the following information:

- Date investigated.
- Action taken.
- Reinvestigation.
- Abated.
- Prosecution.
- Result of prosecution.

The keeping of such a record would require but little extra work on the part of the clerk in charge of this file and would furnish some valuable information to the health officer if properly filed by nature of complaint. He would then be able to tell at a glance what the chief complaints of citizens were and this might indicate methods of removing the cause of such complaints. If filed according to the name of the inspector he could quickly determine which inspectors were furnishing the best results in abating nuisances.

It is not intended that this record should supplant the street register already described. This should be continued as an extremely valuable aid in locating the places where complaints are most frequent. This register, used as it is for recording both complaints and the prevalence of communicable diseases, is valuable in indicating where health protection is most needed and demonstrates clearly the close association between dirt and disease.

House-to-House Investigation.

As previously stated, sanitary inspectors are required to make house-to-house investigations within their districts, as soon as they have completed the investigation of communicable diseases and nuisances assigned to them. If no violations of sanitary regulations are discovered no record is kept of these investigations. If, however, violations are discovered, the sanitary inspectors issue orders on the proper forms for the abatement of the nuisances found, or the correction of unsanitary conditions. These orders pass through the regular

course previously described, all facts being entered in the street register under the appropriate headings. This is an excellent plan for exercising thorough sanitary supervision over the districts. Unsanitary conditions are thus discovered and corrected before they become the cause of complaint by citizens and the sanitary officer is kept at all time thoroughly in touch with conditions within his district.

Inspection of Restaurants.

Effort is made by the health officer to provide thorough inspection of all restaurants at least once a year. The restaurants so inspected are scored as to sanitary condition found and this score card record is kept on file in the health bureau. In 1913 eighty-five restaurants were inspected and scored. According to the score card record of these investigations, no particularly unsanitary conditions were found in any of these restaurants and only four of them scored below 7 per cent. On only five of the score cards was there evidence that the inspector had found conditions which required the issuance of an order by the health bureau. There was, however, no indication upon the cards that reinspection had been made to see that these unsanitary conditions had been corrected or a rescoring made. In this respect these records were incomplete. The clerk of the health bureau states that letters were written to the proprietors of these restaurants requesting that they conform to the rules of the health bureau, but that no reinspection has been made as yet. It is planned, however, to make a thorough reinspection of all restaurants during the coming summer months. It is suggested that the score card record of inspections show clearly not only what was found but also what was done when improper conditions were found. This could be easily done by making each inspector responsible for the records of his own inspection. An occasional review of these inspection cards by the health officer or chief would result in the cards being completed, filled out and kept up to date.

Duplication of Inspection of Bakeries.

According to the state labor law the enforcement of the provisions of the law with reference to bakeries in first-class cities of the state is under the exclusive jurisdiction of local health authorities. The department of labor requires that bakers shall present an application for stating the conditions under which they are operating. Upon the receipt of such application an inspector from the health bureau visits the premises and certifies upon the back of the application that the sanitary conditions are satisfactory, or otherwise. If conditions are satisfactory the application of the person desiring to engage in the bak-

ing business is approved by the health officer, and a sanitary certificate is granted. If conditions are found which are in violation of the regulations of the health bureau or of the state labor law, the sanitary inspector issues an order for the correction of faulty conditions, and then the usual procedure for the abatement of nuisance is followed.

In the city of Rochester, which is a first class city, the regulation of bakeries is accordingly under the supervision of the health bureau. The state department of labor, however, does inspect bakeries within the city, and the results of their inspections are submitted to the health officer of the city whenever conditions are found which warrant his supervision. In many instances the reports of the local inspectors and those of the inspectors of the state department of labor are at variance. The following instances were noted:

- 1—The inspectors of the state department of labor report with reference to one bakery, the following facts:
 - a—Lockers should be provided for street clothes of employees.
 - b—Water closets should be removed from bakeries.
 - c—Water closets should be provided, same to be apart from bakery.

The inspector of the health bureau who investigated conditions in this bakery on the day following this report from the department of labor stated on his report that conditions were O. K.

- 2—The department of labor reports with reference to another bakery that lockers should be provided for the male employees, while the health inspector's report states that the proprietor has no employees, and lives upstairs over the bakery.
- 3—With reference to another bakery, the department of labor reports that suitable lockers should be provided for the street clothing of employees, while the health inspector's report states that the proprietor has no employees and lives upstairs over the bakery.
- 4—In another bakery the department of labor reports that dressing rooms should be provided for employees, and the health inspector reports that the employees have dressing rooms.
- 5—In another instance the department of labor reports that the side walls and ceiling of the bakery should be painted, and the health inspector reports that conditions are satisfactory.

According to the records available in the health bureau, sixty-seven bakeries in Rochester were inspected by the inspectors of the state department of labor and also by the inspectors of the local health bureau. Not only is this an unnecessary duplication of inspec-

tion but the variance in the findings of the city's health inspectors and the inspectors of the state department of labor indicates either that the inspectors of the state department of labor are incompetent or that the local health bureau's inspectors are making false reports. Examination of the reports of both groups of inspectors is sufficient to indicate that the inspectors of the department of labor are at fault.

The sanitary supervision of bakeries is a health function of considerable importance, not only to the consumers of baked stuffs but also to the employees in bakeries. The state law provides and requires the health bureau to have "exclusive jurisdiction" over bakeries for the enforcement of the state law and better results would be secured in the improvement of sanitary conditions in bakeries if the inspectors of the state department of labor had no part in the inspection of bakeries in Rochester.

Supervision of Lodging Houses.

Fortunately there are but few lodging houses of the ten to twenty-five cent variety in the city. Several of these were visited by the investigator in company with the health officer and conditions were found comparatively good. In one lodging house of the more pretentious type in which the lodgers may have "private rooms," the difficulties of proper ventilation and thorough cleanliness were sufficiently obvious to the nose and eyes. It is recommended that the sanitary inspectors be required to examine regularly and report upon all lodging houses throughout the city. Rochester has no municipal lodging house, nor is it necessary that it have one. There must be then, lodging houses of a cheap sort, and if these are placed under thorough supervision and regulation by the health bureau, conditions may be made and kept satisfactory.

Police As Sanitary Inspectors.

The health officer states that the police cooperate with him willingly and effectively in furnishing information regarding sanitary conditions and in enforcing sanitary regulations. Two sanitary officers are carried on the police department payroll as sanitary inspectors. They are not regular policemen, and so far as can be learned by examination of a report submitted by them for the period January 1st to May 5th, 1915, their work is almost identical with that of the sanitary inspectors of the health bureau, in the inspection of unsanitary premises, lodging houses, stables, slaughter houses, etc. It is not clear why these sanitary officers should be upon the police payroll and under the supervision of the chief of police. Their functions are obviously

health functions, and it is therefore recommended that they be assigned to the health bureau and placed under the direct supervision of the health officer for whatever duty he may assign to them. If this is done the appropriation for salaries of health employees should be increased accordingly and the appropriation for police correspondingly reduced because of the inadvisability of having the employees responsible to one bureau for supervision and to another for salary.

In many cities the regular policemen are being used as sanitary inspectors. No person is or should be more thoroughly familiar with sanitary conditions throughout his district than the policeman on his beat. In the city of Springfield, Ohio, the regular police patrolman makes all sanitary inspections and the director of the department of public health and sanitation of Springfield states that the plan has been found very satisfactory. In view of the willing cooperation already existing between the health bureau and the bureau of police, it is recommended that a plan be adopted for the extension of this cooperation. Policemen should be furnished with blank forms of notification which they should be required to fill out whenever a violation of sanitary regulations is observed. They should not be required to go into houses or stores to make investigations, but such conditions as may be observed from the street—as unsanitary premises, improper disposal of garbage and ashes, improper exposure of foods, etc.—should be made the subject of reports to the health authorities through the head of the bureau of police who may issue an order for the correction of faulty conditions. This order should be served by the policeman and the matter of its enforcement carefully followed up by him.

Food and Drug Inspector.

At the present time the investigation of citizen complaints, reports of communicable diseases, and the house-to-house survey consumes practically the entire time of the sanitary inspectors. There is under the supervision of the chief meat and milk inspectors, an inspector whose work is limited almost solely to the collection of milk samples. Obviously, a large field of investigation into the conduct of food and drug establishments must perforce be neglected. It is recommended therefore that sanitary inspectors be required to make inspection of restaurants, lunch rooms, bakeries, drug stores and other food and drug manufacturing and retailing stores within their districts. If conditions are found which indicate the need of more thorough regulation, these facts should be reported to the health officer who may carry on such further investigations as may be necessary. Investigations conducted by the Bureau of Municipal Research, as well as other civic and municipal organizations, have shown that protection of the food and

drug supply is an important part of health service. It has been shown time and again that thorough inspection and enforcement of health regulations alone can prevent the contamination and adulteration in every possible way of food and drugs. Rotten eggs are frequently used by bakers, the use of dangerous adulterants and filthy practices is not by any means uncommon in ice cream plants, soda water manufactories, confectionery manufactories, canneries, etc., and although there is no direct evidence that such conditions or practices exist in Rochester, we may assume, on the basis of experience in other cities, that they do exist. If as recommended, the two sanitary officers of the police department are assigned to the health bureau for general sanitary inspection work, the additional work necessary for properly carrying out this recommendation could be easily taken care of.

More Thorough Meat Inspection Needed.

At present Rochester's meat supply is practically unsupervised. The following statement appears in the report of the health bureau for 1913: "No report on the meat supply of the city is available because there has been such a small amount of meat inspection. There are a few small slaughter houses situated close to the city line which need inspection and there is a considerable quantity of meat killed by farmers and brought into the city which should be inspected at a public abattoir in the process of killing." This statement of the health officer is just as applicable to present conditions as it was to conditions in 1913. In 1913 the assistant meat and milk inspector visited four meat markets; in 1914 he visited only two meat markets. This of course means next to nothing in sanitary control of the meat supply, for federal inspection of meat at abattoirs has demonstrated conclusively that there is constant danger from the sale of diseased animals for food purposes.

It is well nigh impossible to prevent the sale of diseased, contaminated and unwholesome meat by inspection of the retail markets. As in milk inspection we must go farther back—back to the slaughter houses where the animals are killed and prepared for market. The health officer suggests in his report for 1913, a municipal abattoir where all meat slaughtered outside the jurisdiction of the federal meat inspection service may be inspected by local health inspectors. This is by far the best plan and has been found by many cities to be not only a safeguard but an economy. The cost of killing to the small dealer may be reduced considerably and the business still be conducted with profit to the city. The city of Wilmington, N. C., has recently built a municipal abattoir under the direction of the health officer of the city of Wilmington and New Hanover County. Dr. Charles T. Nesbitt, the

health officer, states that he has not only secured complete sanitary control of the slaughtering of animals for food purposes, but that the abattoir is making money for the city besides reducing the cost to the dealer. Rochester needs a municipal abattoir to be conducted under the supervision of the health bureau and this is urged as the most practicable and economical plan. As a temporary substitute for the municipal abattoir the plan followed in Denver, Colorado, is recommended. All meat slaughtered for food purposes by dealers outside of the city of Denver, unless otherwise inspected by federal or local authorities, must be submitted for examination and the stamp of approval at the city office of the meat inspector. All farmers bringing carcasses into the city are required to submit the carcasses to examination. If the meat is found satisfactory it is stamped as inspected and passed and may be sold. A penalty is provided for the sale of any meat not bearing the inspection stamp of either the federal or city meat inspection service. This does away with the necessity for routine inspection of markets and simplifies the work of inspectors remarkably. An office should be selected in a place convenient to farmers or others bringing meat into the city. A veterinarian meat inspector should be employed by the health bureau at this office. The hours of service of this employee should be regulated largely by the business in hand—probably from 4 or 5 A. M. to 1 P. M. If it should be found that the time required for such service is small, the veterinarian could be used for other inspectional work as the health officer might direct.

Sanitary Control of Garbage Removal.

Article III., section 7, of the present health ordinances requires that "Every owner, lessee, or occupant of any building, premises or place of business shall provide, or cause to be provided, and at all times keep suitable and sufficient receptacles for receiving and holding all garbage. No such receptacle shall be kept on any sidewalk or in any public place longer than may be necessary for the removal of the contents thereof." Because of the indefinite wording of this ordinance difficulties in the proper removal and disposal of garbage constantly arise. "Suitable and sufficient" receptacles may mean almost anything. For example, the street cleaning department cites an instance in which a number of tenements used a large bin as a common garbage receptacle. In order to remove this garbage it was necessary for the garbage collector to shovel the material from the floor of the bin to the collection wagon.

In order to make the sanitary control of the collection and disposal of garbage effective it is necessary that there should be the

closest cooperation between the street cleaning department, the bureau of police, the bureau of health and the public. The present ordinance should be revised or a new ordinance drafted in the complete sanitary code previously recommended, which will clearly specify what a "suitable and sufficient" receptacle shall be, and sanitary officers and policemen should be on the alert to see that the ordinance is observed. The proper preparation of garbage by citizens for removal by the collectors of the street cleaning department means large saving in time and money, and also means much in aiding the abatement of the fly nuisance.

MILK AND MEAT INSPECTION.

Milk Control in Rochester Excellent.

Although there are approximately seven hundred producers supplying milk to the city of Rochester, and about 215 peddlers distributing this supply, the health bureau has exercised and is exercising a thorough control of the supply and its distribution. The recently adopted state sanitary code prescribes the method of issuing permits for the sale of milk, the inspection of dairies, methods of handling milk and cream, and the grades of milk and cream. The grading of milk and cream is based upon certain standards of health of cattle, bacterial content, dairy score, and time elapsing between production and delivery. These regulations as set down by the state sanitary code are being applied to the local health bureau, but the efficiency of Rochester's milk control is due, not to the present sanitary regulations of the state health department, but rather to the continued efforts of the health officer and his assistants for many years past. The determination of the health bureau to have clean, uncontaminated milk has resulted in better milk, not only for Rochester, but for many other cities of the country which have profited by Rochester's example. Rochester is one of very few cities of the country which has insisted for several years that milk could be and must be clean. While other cities throughout the country were permitting the sale of milk containing hundreds of thousands—even millions of bacteria per cubic centimeter, the Rochester health bureau declared and maintained a standard of one hundred thousand bacteria per cubic centimeter, which is even higher than the standard recently adopted by the state.

Complaints against the health bureau because of the stringency of its milk regulations have been frequent, but Rochester citizens should remember that the general healthfulness of the city of Rochester, its low infant mortality rate and its freedom from milk-borne epidemics of disease, are the results of these strict regulations regard-

ing the milk supply. The state law permits local health officials to increase the stringency of the state regulation, and the local health bureau is therefore well within its right in insisting upon a higher standard.

Country Milk Inspection.

The assistant milk inspector who is assigned to the inspection of the seven hundred or more dairies throughout the country, records the results of his inspection of each dairy upon the score card which is authorized by the state department of health. The score card is filled out in triplicate, the original being given to the dairyman, one copy retained by the inspector and the third copy being sent to the city dealer who handles the milk of this producer. Examination of the dairy scores on file in the health bureau shows that the inspection of dairies is complete and thorough. The general standard of dairies supplying milk to Rochester is high. Since January 1, 1915, approximately five hundred dairies had been scored at the time this examination was made and the average score of these dairies was 74.8, one hundred being the perfect score.

As these scores are sent in by the inspector daily they are examined by the chief milk inspector. If condition of the dairy is noted on the card, which in the opinion of the chief milk inspector is unsatisfactory—even though the total score is high, the producer is notified that he must correct the condition within a definite time limit, depending upon the amount of work involved. If a condition is found which in the opinion of the health officer renders the dairy unfit to produce clean milk, the following notice is sent to the producer and a copy to the retailer handling his milk:

“Dear Sir:

The inspection of your premises on shows them to be in unfit condition to produce milk for the Rochester market.

(Statement by inspector of condition
requiring correction)

By order of the Health Officer, you are hereby notified to discontinue sending milk to the Rochester market until you have put your premises in proper shape and have had a reinspection of same.

Respectfully yours,”

When the producer has put his premises in proper condition he notifies the health bureau and a reinspection is made. If conditions are satisfactory he is notified in writing that he may again sell milk to the Rochester market, and the dealer is notified that the ban on this particular dairy has been lifted.

During 1914, twenty-six producers were prohibited from selling milk for consumption in Rochester. This is an effective way of dealing with the situation. Nominal fines for violation of milk regulations are of little value in securing control. Exclusion of the milk, however, is a very different matter, for no producer can afford to have his market taken away from him and the result is that he remedies the faulty condition just as quickly as he can.

Method of Checking Dairy Inspection.

A chart is kept by the chief milk inspector, on which is listed all of the producers whose milk is sold in Rochester. Opposite the name of the producer is the date of last inspection. The chief milk inspector records the date of inspection upon this list as the score cards are sent in by the inspector in the country, and by noting the dairies which have not been inspected is able to lay out the route of the country milk inspector. In this way he keeps himself informed at all times of the location of the country milk inspector, so that he may notify him by telephone or letter of special investigations to be made.

Communicable Diseases Charged Against the Producer.

A chart is kept daily to date by the chief milk inspector, on which the names of all producers are listed. As cases of communicable disease, scarlet fever, diphtheria, and typhoid fever, are reported to the health bureau, the case is charged against the producer whose milk is used by the family in which the sickness occurs. Scarlet fever, diphtheria, and typhoid fever may be carried in milk, and many severe epidemics of these diseases have been traced to contaminated milk. The charging of all cases of the diseases reported to the various dairies does not mean that the producers so charged are actually responsible or that the milk supplied by them is contaminated by disease germs or infective matter but if there should be several cases of disease charged against any producer, it would indicate to the health officer the possibility of some infection of the milk at the source of the supply. The milk source is investigated by the chief milk inspector in all cases of typhoid fever, because typhoid fever is most commonly a milk-borne disease in communities where there is no contamination of the water supply. In such cases, the chief inspector makes a thorough inspection and scores the dairy, paying particular attention to those features of the dairy which might indicate the possibility of contamination.

Procedure of Licensing Milk Dealers.

All persons desiring to retail milk within the city must first obtain a permit from the health bureau. Application is made upon a form

approved by the state health department, the statements of which must be endorsed and sworn to by three persons. On the back of this application the dealer lists the dairies from which he proposes to obtain milk, the proposed grade of milk or cream to be obtained from each, and the amount of milk or cream from each. Before a permit is granted, however, the health officer must certify on a special form, approved by the state department of health, that the premises of the dealer have been found clean and sanitary, and that each dairy from which the milk is to be obtained has been inspected and scored at least 40 per cent. Permit is then granted for the period up to December 31st of the current year, at the end of which time the permit must be renewed.

Inspection of Retail Milk Dealers.

Practically all milk coming into the city is distributed by wagons. The dealers get the milk at the station in the early morning, and take it to their bottling room, where it is bottled for distribution. The assistant meat and milk inspector, who is charged with the duty of collecting samples, secures samples of the milk as it comes in at the depot, two samples being taken from each supply. One sample is given to the dealer from whom the sample is taken and the other is conveyed to the health bureau for laboratory examination.

With the present staff it would be well nigh impossible to furnish adequate scoring of both milk bottling plants and stores where milk is sold, since the assistant meat and milk inspector does practically nothing except collect milk samples, and the chief milk inspector must, of necessity, be in the office a great part of the time, thus leaving only one inspector for active field duty, and his most important duty is to the country dairies. It is important, however, that no link in the chain from producer to consumer should become weak through lack of thorough routine inspection. It is, therefore, recommended that an additional milk inspector be employed at a salary not to exceed twelve hundred dollars, who may conduct, under the direction of the chief milk inspector, such further investigation of the milk supply as the health officer may direct.

Sediment Tests of Milk.

In 1914, three hundred samples of milk from retailers were examined by the Lorenze Sediment Tester. This is a device for straining the milk through a small cotton disc which removes the gross contamination, i. e. dirt. These discs are then mounted on plates and labeled with the name of the dealer and the date. The evidence of the little

disc is incontrovertible and has been of the utmost value in convincing the milk dealer of the necessity for greater care in handling milk. When the tests showed that milk was badly contaminated with dirt and stable filth, the following letter was sent to the dealer:

“Dear Sir:

On milk sold by you was subjected to tests which again show it to be very dirty and unfit for human food. This milk must not come into Rochester. By order of the Health Officer you are hereby notified to appear at the Health Office and show cause why your license should not be revoked for selling milk in violation of the Health Ordinance.

Respectfully yours,”

The combination of this effective notice, with the graphic demonstration of the reason for it, is the right kind of educational health service. The chief milk inspector states that similar tests will be made during the coming months.

Information for the Public.

The practice of the health bureau in publishing in the health bulletin each month the names of the various milk dealers and the bacteria counts of the milk sold by them is an excellent method of improving the supply and of keeping the public informed as to the cleanliness of milk as represented by these bacteria counts. The health bureau does not recommend milk dealers to the citizens of Rochester, but the records of the health bureau are open for the examination of any person who wishes to know the truth about his own milk supply. The co-operation of an intelligent and informed citizenry means progressive health service.

Improved Service Records of Milk and Meat Inspection Work Needed.

From the records available and in view of the excellent results obtained by the health bureau, there can be no question as to the general efficiency of the chief milk inspector and his assistant who is engaged in the inspection of country dairies. There can be little doubt that these men are performing their duties in an entirely satisfactory manner. The only information available as to the work of the assistant milk and meat inspector, however, is the very inadequate daily report which he submits. This record states only approximately where the inspector was and the number of milk samples collected. The following instances, taken from the file of this inspector's daily reports for one month, are indicative of the inadequacy of these reports:

March 1st, at Glenhaven Depot for producers. At office and on Front Street, 20 samples.

March 2nd, out after producer. At office and on Front Street, 12 samples.

March 3rd, at office and on Front Street, 11 samples.

March 4th, 8 samples.

March 6th, at office and on Front Street.

March 8th, out after producer. At office and on Front Street, 14 samples.

March 11th, out after producers. At office and on Front Street, P. M. getting horse shod.

March 12th, out trying to get producers' samples. Failed. At office and on Front Street.

It is evident that such a record is of little value, for there is no way of determining from them how much time was actually spent by the inspector, either in the office or in the field. As previously suggested in this report under the heading "Daily Reports Unsatisfactory," the assistant milk and meat inspector should be required to submit complete and accurately detailed reports of his service in the manner there suggested. Inefficiency, if it exists, may thus be shown, and proper remedial steps taken.

MEDICAL INSPECTION OF SCHOOLS.

Staff and Duties.

There are twelve school physicians, each assigned to a district within the city, and one inspector at large who performs special work as assigned by the health officer. The work of the district school inspectors comprises not only the inspection of schools and school children, but also the care of the sick poor within their districts under the joint direction of the health officer and the commissioner of charities. Care of the sick poor includes visiting and treating the sick poor in their homes, treatments at office, care of confinement cases, examinations to determine sanity, and the examination, once in three months, of city poor persons in the hospitals of the city. Their school work consists of the sanitary inspection of each school building once each week, an average of sixty physical examinations each week, unless a smaller number of examinations per week will bring about a yearly examination of all pupils in the schools to which the physician is assigned. This is the minimum amount of work required. The health officer states, however, that he considers that the school physicians are on call for whatever work he may find it necessary for them to do.

School nurses are eight in number, and each nurse is assigned to a single school district. These schools are numbers 4, 5, 9, 14, 17, 18, 26 and 27, and these were selected because the health officer deemed it wiser to concentrate his small force where it was most needed than to attempt to cover the entire field with such a small force.

The nurses endeavor to supplement the work of physicians in securing treatment of physical defects found either through the family or local hospitals and dispensaries. Their work is not limited to the schools, however, for they are required to perform general health service in their districts, the schools being merely the centers through which the community health needs are discovered and cared for. Classes of instruction are held for the "little mothers" organizations, and the "little mothers" are taught how to care for the babies, for themselves and for their homes. In summer the nurses take charge of the health work which is carried on through the child welfare stations.

Need for More Nurses.

It is the experience of all health workers that the competent, intelligent, tactful nurse is a most effective agent for health education. Rochester has eight such nurses who are rendering remarkable service in the field covered. Rochester has more than forty public schools and more than thirty of these are without the services of a school nurse. The services of eight additional nurses for special summer work in connection with child welfare stations and the promotion of the summer work in the prevention of infant mortality have been found necessary. There is need, however, for more extensive all-the-year round work in the schools and the districts served by them. To meet this need there should be at least three more nurses who may be assigned to school work where it is most needed and in addition a supervising nurse who may direct the entire school nurse service.

Medical Examination of High School Pupils Recommended .

At the present time there is no medical inspection of high school pupils, although there is abundant evidence to prove that high school pupils need medical advice and treatment in a very large percentage of cases. At the age when most children enter high school important physiological changes are taking place, and it is at this particular time that many serious pathological conditions first make their appearance or first become noticed. Besides this it is important that high school pupils be given competent advice and instruction regarding sex functions and sex relations. The value of instruction in sex hygiene is obvious, not as an organized and essential part of the school curriculum

but as part of the medical inspection of high school pupils. There are now approximately three thousand high school pupils; with the addition of the schools of Charlotte this number will be much increased. It is therefore recommended that a male physician for the high school boys and a female physician for the high school girls be appointed who may make medical inspection of high school pupils and perform such other services in the care of the sick poor as the health officer may require. These physicians should be chosen carefully, for they would need to be not only competent medical advisors but persons who could secure the confidence and cooperation of high school pupils. Each should receive a salary of not more than \$1,200 a year, and should be under the direction of the health officer.

Medical Inspection of Parochial Schools.

As yet the health service rendered by the bureau of health in the detection and correction of the defects of school children has not been extended to the parochial schools, of which there are about sixteen. There are about twenty thousand children requiring medical inspection in the public schools and probably about half as many more in the parochial schools. Vaccination of school children is mandatory under the law, but without proper medical inspection this is certain to be neglected. It is hoped that during the coming year it may be possible, by cooperation with the authorities of the parochial schools, to give the advantages of medical inspection and nursing service to thousands of parochial school pupils. This is being done in New York city and Buffalo and many other cities, and there can be no question of the desirability—even the necessity of it in Rochester.

Physical Examinations of School Children.

The results of the medical inspection as performed by the school physicians are entered upon the physical record card of the child. This card is kept in the school. Entries are made upon it of treatments, exclusions, or other action taken by the physician or nurse, and follow the child from grade to grade throughout its school career. If physical defects or other conditions requiring correction are found, the parents are notified of the fact upon a special card and are requested to consult their family physician regarding treatment. If the parents are unable to pay for treatment the nurse endeavors to secure treatment at a public hospital or dispensary. Physicians and nurses are instructed to give no treatment except in emergency or in minor conditions which require but simple treatment.

If conditions are found which make the child's attendance at school inadvisable, he is excluded until proper treatment and correc-

tion of the defect has been made and the physician and nurse endeavor to secure treatment as promptly as possible.

Free Dental Clinic.

The dental association of Rochester conducts free dental clinics in two of the schools for the benefit of school children who may be referred to it by physicians or nurses. This is health service of the best kind and the results of such service are well evidenced in the reports of physicians and nurses. The correction of defects of teeth requires the constant effort of physicians and nurses, for without constant urging and instruction neither children nor parents will give this matter the attention needed. Defects of teeth are not limited to any sections of the city or to any classes of its citizens. They are as common among the children of the well-to-do as among the children of the poor. Studies made by the health bureau indicate that approximately 88 per cent. of children at fourteen or about the age of puberty have carious teeth and at earlier ages the percentage is probably even higher. This emphasizes the need for extension of school health service and the importance of school nursing work in those schools which are now unprovided with school nurses, and also the need for medical examinations of high school pupils to whom the correction of defects of teeth is just as important as to younger school children.

The Rochester Dental Association receives \$500 each year from the health bureau's appropriation. The service is needed, there is no doubt, and the city should pay for it, but it is obviously improper to charge against the appropriation any sum over the proper expenditure of which the health officer has no control. The co-operation of outside agencies is welcomed and encouraged by the health bureau, but it is a function of preventive health service to provide for the proper examination and treatment of the teeth of school children. It is therefore recommended that the city take over these dental clinics and conduct them as part of the health bureau's inspection service, so that the health officer may not only be responsible for this money spent for their support but also may determine how they may render greatest service.

Rochester Public Health Association.

A dispensary is conducted by the Rochester Public Health Association, a private organization at which school children may be treated. For the support of the Rochester Public Health Association the city pays \$2,000, which is charged against the appropriation of the health bureau. Here again, the health officer is held responsible for the expenditure of a large sum of money but has no control over the way in

which it shall be spent. No criticism is made of the Rochester Public Health Association and there is little doubt but that it is performing a valuable service for Rochester citizens, but if its functions is preventive health service it should be under the direction of the health officer, and if not, the city should not pay for its support through health bureau appropriations.

Records of School Medical Inspection.

In general the records of school medical inspection service are well designed and if properly filled out furnish adequate information regarding the quantity of work performed by physicians and nurses and the results obtained. The medical inspectors submit weekly reports of the number of medical inspections and visits made and also reports of the sanitary surveys of school buildings. They do not, however, furnish any reports of the time spent on duty except that when schools are visited their times of arrival and departure are entered in a book at the school. Such records are essential in determining whether the time spent in service is adequate for the proper performance of work reported and also for determining the need, if any, of additional inspectors.

The functions of the medical inspector are :

Vaccination of school children.

Medical inspection of school children.

Care of sick poor.

Examination of the indigent insane.

Examination of hospital patients.

Vaccination of school children, medical inspection and care of the sick poor are matters of almost daily routine. Examination of indigent insane is only occasional, while examination of hospital patients occurs only once in two months. The daily reports of the medical inspector should show how much time was spent by him each day in performing these varied duties.

Child Welfare Stations.

During the months of July and August, 1914, thirteen child welfare stations were conducted, eleven in public school buildings and two in parochial schools. The records of this service indicate clearly the importance of intensive work of this kind. The education of mothers in the proper care of themselves and their babies, the betterment of living conditions, the instruction of children in health service for themselves and others, is health work of far-reaching effect. No higher service than this can be rendered by the Rochester health bu-

reau, and it is earnestly recommended that the child welfare stations be continued not only for the summer months but the year round within schools where nurses are stationed. As the health officer says in a report upon the work of the child welfare stations for July and August, 1914:

“This is only preliminary work. These summer child welfare stations should be conducted all the year round as child welfare stations for prenatal and postnatal nursing done from the schools, so that ultimately we may, at least, have a mental and physical record of every child from birth until it goes into the world to work.”

In 1914, the total cost of the thirteen child welfare stations, exclusive of the salaries of regular nurses but including the salaries of seven extra nurses for the month of July and eight extra nurses for the month of August, was only \$1,932.01, or an average cost of each station for two months service of \$148.62. The report of the nurse in charge of child welfare stations shows that 2,274 babies were under supervision at all welfare stations during July and August and that of this number only eighteen died. Of the 2,274 babies cared for, 373 were sick at the time when they came under the supervision of the child welfare physicians and nurses. This point should be emphasized, however. Modern health service is preventive, and the most important work which can be done by any health bureau is to prevent sickness. The service rendered by the physicians and nurses in keeping 1,901 babies well was perhaps even more important than the caring for the 373 sick babies. Comparing the total cost of the child welfare service during July and August, exclusive of the salaries of regular nurses with that spent for other health activities, make it quite clear that no other health service of so great value can be given at anywhere near such a low cost. The average cost of caring for each of the 2,274 babies under supervision during July and August, 1914, was only eighty-five cents, truly a small price to pay for keeping a baby well.

Infant Mortality Rate and Index of Child Welfare Efficiency.

Of the 6,599 children whose births were reported in Rochester in 1914, 558 died before reaching one year of age. This number of deaths under one year does not include the deaths of forty Rochester children who died in the Infants' Summer Hospital at Charlotte, but does include the deaths of sixteen children who were born of non-resident mothers in the hospital of the city. Deducting the number of non-resident deaths and adding the deaths of Rochester babies who died in the Infants' Summer Hospital at Charlotte, gives the total of 582 deaths

under one year, of Rochester babies. The infant mortality rate means the number of babies out of each one thousand born, who die before reaching one year of age. Rochester's infant mortality therefore, calculated on the basis of 582 deaths under one year, is eighty-eight per thousand. This is the lowest infant mortality rate in the state, and it is a figure in which Rochester citizens may well take pride, for it means efficiency of health control. But Rochester should not be content with an infant mortality rate of eighty-eight per thousand, for this figure is capable of being still further reduced, and every point of reduction means the saving of the lives of six to seven babies.

The value of year-round child welfare work has been pointed out, but it is desired to lay further stress upon prenatal as well as post-natal work. Many babies come into the world handicapped by disease or abnormal conditions which might have been prevented if their mothers had known during pregnancy how to care for themselves and their unborn babies. Nurses working out from year-round child welfare stations would know where babies were expected, and the instruction and advise which they might give to the expectant mothers during pregnancy would unquestionably result in saving the lives of many mothers and babies.

Rochester has made an excellent beginning, but it is only a beginning and without larger appropriations for health service, can never be anything more. The results which have been obtained have cost each citizen less than thirty cents a year.

Infants' Summer Hospital.

The Infants' Summer Hospital at Charlotte receives \$4,000 a year for the care of babies, which is paid out of the appropriation of the Rochester health bureau. The value of such an institution to the city of Rochester may or may not be worth that amount of money. At all events there are no records in the possession of the health officer to show whether or not the service rendered is efficient or economical. The health officer has no control over this institution, although he is charged with responsibility for the proper expenditure of his appropriation. The need for such an institution, however, should grow increasingly less as the general health preventive work progresses. The improvement of home conditions, the betterment of the milk supply, the establishment of year-round child welfare stations, and the continued campaign of publicity and education, is certain to bring results in lessening the summer sicknesses of babies. It is recommended, therefore, that the city pay for those babies which may be referred to the hospital by the health bureau, and that payment be made for these on

a per day or per week basis as determined by the actual cost for their care. If it is costing more than it should for such care certainly the city should know it.

The health officer states that with the increased facilities for caring for babies before and after birth the number of babies requiring institutional care will be greatly diminished. Obviously, if proper conditions can be maintained in the home, the baby will do as well if not better in the home—and the improvement of home conditions is one of the ends toward which the health bureau is striving.

CHILD LABOR INSPECTION.

Staff and Duties.

The child labor inspector is a nurse who has been assigned to this work by the health officer because of her peculiar fitness. Her work is largely confined to the health office, where she receives applications for working papers and examines children to determine their physical ability. In certain cases however, she visits the homes of the children to secure treatment for physical defects, should such treatment be necessary.

The final decision as to the issuance or refusal of employment certificates is made by the health officer in order that there may be no question as to the child's health or freedom from physical defects.

Importance of Thorough Supervision of Child Labor.

The state labor law prohibits the employment of children under fourteen years in factories and mercantile establishments. Children between fourteen and sixteen may be so employed, but only after the issuance of an employment certificate by the local health authorities. Thorough supervision of the issuance of such certificates is a very important health function, for the ill health of a child at the beginning of employment is much more likely to become worse than better, and the community as well as the individual must suffer economically and socially. By thorough examination of children applying for working papers, many physical defects are discovered which perhaps might never be corrected but for the fact that they must be corrected before a certificate will be granted by the health officer. Under our present laws child labor cannot be prevented, but it lies within the power of health officials to control it and to prevent the employment of the physically or mentally unfit—and this the Rochester health bureau is doing efficiently.

Routine Procedure.

Children of legal age who wish to obtain working papers bring their health record cards with them from the schools which they attend. During the course of the year, the school physicians endeavor to examine all children so that the school record card, when submitted, should present an-examination as of the current year. If there is no evidence that the child has been examined during the current year, the health officer makes inquiry of the physician in charge of the school to determine why such examination was not made.

When this school record card is presented in person at the health bureau, the child labor inspector examines the child to discover any defects of eyes, ears, teeth, tonsils, etc. A complete record of all defects of teeth is kept, and these defects are tabulated yearly for the information of the health officer, in order that information may be obtained relative to the influence of such defects upon the general health of the child. The results of each physical examination of the child are entered by the child labor inspector upon a form prescribed by the state department of labor. This record is made out in duplicate and one copy transmitted to the state department of labor, while the other is retained in the office of the health bureau for record purposes. If, in the opinion of the child labor inspector, a permit should be granted, further physical examination is given by the health officer before the permit is finally issued. If, in the opinion of the child labor inspector, the permit or employment certificate should not be granted in view of existing physical defects, the matter is referred to the health officer for his decision.

If the physical examination shows a satisfactory condition of the child's health and physical ability, the employment certificate is made out in duplicate on a form prescribed by the state department of labor. This form contains the certification of the health officer or official making the examination that the child is physically fit, together with a description of the child for the purpose of identification, and the child's signature. One copy of this certificate is given to the child, who must present it at the place of employment, where it is kept on file until the termination of the child's employment. A copy of this certificate is kept in the health bureau for record purposes, where it is filed with the physical record previously described. The school health record is also filed with the physical examination record and a copy of the permit.

The superintendent of schools is notified by telephone immediately upon the issuance of an employment certificate, and the state department of labor is also notified of the names of the persons to whom permits have been issued.

Birth Records Checked.

The names of all children applying for employment certificates are looked up in the birth records. If no birth record is found, an effort is made to determine from the parents or from the baptismal records the exact age of the child. Effort is made also to determine the name of the physician who attended the birth in order that he may be warned against further neglect in the matter of reporting births.

“Follow-Up” Work Recommended.

Although the inspectors of the state department of labor are required to investigate the conditions under which children are employed and to regulate such employment as provided by law, it is impossible for the state department to provide, through its limited force, the supervision needed. It is recommended that it be made a part of the work of sanitary inspectors to visit these factories or places of employment within their districts where the welfare of employees has not received due consideration or where the hazards to the health of children are particularly marked.

General Efficiency of Service.

No criticism whatever can be offered regarding the work of the child labor inspector as now performed. Records and reports are in excellent condition, and her work is performed with care and judgment.

LABORATORY SERVICE.

The bacteriological laboratory is under the direction of a thoroughly competent bacteriologist of the University of Rochester who receives \$1,800 a year for part-time service in the health bureau, the amount of service being governed by the amount of work to be performed. Examinations for diphtheria, tuberculosis, and venereal diseases are performed in the laboratory at the health office. Typhoid examinations and bacteriological examinations of Hemlock water are done at the university, where the bacteriologist has all the facilities of the university laboratory at his command.

Bacteriologist Should Be Civil Service Appointee.

The bacteriologist states that he is not a civil service appointee, but that he was appointed by the health officer under provision of the charter which permits the health officer to appoint, with the consent of the mayor and the approval of the commissioner of public safety, temporary employees, as health and sanitary experts, at compensa-

tion fixed by the board of estimate and apportionment. While no fault can be found with such a provision of the charter, yet it is obviously not the intent of the provision that health or sanitary experts should be continued as permanent employees outside of the civil service control. It is recommended that this position be recognized as a civil service position in the non-competitive group in order that the present satisfactory service may be continued legally. No advantage would be gained and much lost, perhaps, by submitting this position to an open competitive examination; for the cooperation between the health bureau and the University of Rochester is desirable from every point of view.

Examination of City Water.

The bacteriologist examines a tap sample of the Hemlock water supply four times each month. The results of these examinations show a satisfactory condition of the water. In fact, there is so little variation in the findings that the reports appear stereotyped, although as a matter of fact they are not. The bacteriologist makes the following statement covering the examinations of 1914:

“No unusual conditions of the water (Hemlock) were noted during the year. The seasonal variations of the different organisms occurred, but at no time was any one of the deleterious kinds so abundant as to cause an unpleasant taste or odor to a marked degree. A slight tendency in this direction became evident in the early part of June, but was promptly checked by the application of copper sulphate to the water in Cobbs Hill Reservoir. The amount of sediment was such as is usually found and the number of bacteria varies within the limits ordinarily observed.”

As previously stated, the samples upon which the reports of the bacteriologist were based were taken at a tap in the laboratory of the University of Rochester. There would in all probability be little evidence of contamination at the tap under ordinary circumstances, for the Hemlock supply is particularly well protected both at its source and in the reservoirs, where retention for long periods would tend to reduce the evidences of contamination. It is suggested, therefore, that samples be taken at least once a month at the head of the lake and also at the intake in order that any possible sources of contamination may be detected there. The dangers of such contamination are remote, it is true, but nevertheless contamination may occur.

Little is known regarding the Lake Ontario supply. No reports are made to the health bureau by the water company, and the bacteriologist makes only occasional examinations of the water. The health officer says in his annual report for 1914 “No such (referring to ex-

aminations of Hemlock water) systematic examinations have been provided for water coming from the Lake Ontario Water Company's supply. As the city takes in a larger part of the outlying districts, this water company will supply an increasingly large territory, and it is only fair to residents of this district that systematic examinations of Lake Ontario water should be made." There can be no question as to the advisability of such procedure. Samples should be taken at least once a week from the tap and also at the pumping station.

Work of the Chemist.

The chemist, who is a full time employee, makes daily examinations of milk samples both for chemical constituency and bacterial content. In addition, chemical analyses of foods, drugs, and fermented and distilled liquors are made as required by the health officer. A chemical analysis of Hemlock water is made once a month, and analyses are made of such samples of well water as may be submitted to the health bureau.

The amount of routine work performed by the chemist is considerable. About ten samples of milk are examined chemically every day and about half as many samples are examined for bacterial content. The chemist has one assistant, who is employed several days each month at the rate of \$2 a day for the cleansing of laboratory apparatus and general labor.

Permanent Laboratory Assistant Recommended.

With the increased laboratory work made necessary by the extension of the food and drug inspection service previously recommended, a permanent laboratory helper will be found necessary. It is suggested, therefore, that such an assistant be employed to assist the bacteriologist in the preparation of media and specimens for examination and to perform such routine operations in the examination of milk samples as may yet require technical training or ability.

Appraisal of Laboratory Service.

The health bureau has a well equipped and well conducted laboratory. So far as could be observed in a brief study, work is carefully and efficiently performed and the bacteriologist and chemist are both men of thorough training and technical skill. It is believed, however, that with the employment of a permanent assistant, who can relieve the bacteriologist and chemist of much of the routine work now done, the laboratory will be able to offer still further service to physicians throughout the city. Efficient laboratory service plays an

important part in health service; it secures the cooperation of physicians by performing for them laboratory examinations which assist them in diagnosis; enables the health authorities to improve the reporting of communicable diseases in which the laboratory examination confirms or establishes the diagnosis; it indicates to the health officer where contamination exists in foods and drugs; it keeps close watch upon the water supply so that dangerous contamination may be quickly detected.

VITAL STATISTICS

Efficiency of Service.

The registrar of vital statistics is required to receive and record all certificates of births and deaths and to prepare such summaries and reports regarding births and deaths as may be required by the local health bureau, the state department of health, and the United States public health service. This only briefly summarizes the exceptional service which is performed by the registrar of the Rochester health bureau. Not only does she have a thorough appreciation of the value of vital statistics in preventive health work, but the system of record-keeping and analysis of records inaugurated by her is a model of completeness and accuracy.

Registration of Physicians and Midwives.

A register is kept in which all the physicians and midwives of the city are listed alphabetically. Opposite the name of each physician or midwife is kept a tally which shows the number of births or deaths reported by each. This tally is used in computing the amount to which the physician or midwife is entitled for reporting. The registrar keeps on hand the sum of \$50, which is used to pay the amounts credited to physicians or midwives upon their application for payment. The physician or midwife is required to sign a receipt for the money received, and this receipt is transmitted to the city treasurer by the registrar. The stub of the receipt is kept by the registrar in a stub book as her memorandum of payment. The registrar states that the payment of this fee has been productive of good results in increasing the registration of births. So far as the reporting of deaths is concerned, it has, of course, no effect in improving registration, since it is absolutely necessary for a death certificate to be filed before the body be buried or otherwise disposed of by the undertaker.

Efforts to Secure Accurate Death Record.

It is, of course, extremely important not only that there should

be an accurate record of when and where deaths occur, but also that the causes and circumstances producing death should be clearly and properly stated. In filling out the causes of death, it is essential that the international list of the causes of death, which has been adopted by state and national authorities as the standard, should be used. If it is not, no statistical data relative to the causes of death are worth recording, and the preventive health work, which is so largely based upon these statistics, is therefore seriously interfered with. In Rochester the registrar is especially to be commended for her efforts to secure complete and accurate registration of deaths. Certificates of death which are incomplete or inaccurately made out, or which do not conform in their statements of the causes of death to the proper nomenclature, are returned to physicians for correction, and proper certification is insisted upon. The mortality statement, therefore, which is prepared every month by the registrar is as accurate as it is possible to make it.

Deaths Under One Year.

In view of the efforts being put forth by the Rochester health bureau to save babies, it was to be expected that there would be complete and accurate records of their deaths—and in this the investigator was not disappointed. If the campaign for the prevention of infant mortality is to be effective, it is, of course, of primary importance to know where infants are dying and why. All reports of deaths of infants under one year are carefully examined by the registrar to insure their completeness and accuracy. The birth records are examined to see whether the infant who died had been previously reported as to birth, and in this way many unrecorded births are discovered. Each month a complete summary of all deaths under one year is prepared in which the deaths are analyzed to show the ages, by months, at which deaths occurred, the causes, nationality of parents, number dying of prematurity, number attended by physicians or midwives, and all other facts which may be useful to the health officer in his preventive work.

Importance of Accurate Birth Registration.

The effort of the health officer, registrar, and other employees of the health bureau to secure birth registration is especially worthy of note, for without such registration efficient child welfare service would be well nigh impossible. If anything is to be done to keep the babies and mothers well, we must first know where they are, and what the circumstances of birth were. The further advantages of birth reg-

istration have been well summarized in the placards which the health officer has posted in the street cars and school buildings.

IS YOUR BIRTH REGISTERED?

If Your Birth Is Not Registered At The Health Bureau
You May Not Be Allowed To

Go to School

Leave School

Go to Work

Vote

Marry

Hold Public Office

Leave a Foreign Country

Re-enter Your Own Country

Inherit Money or Other Property

Receive Compensation Insurance

IS YOUR BIRTH REGISTERED? ASK THE HEALTH BUREAU.
DID THE DOCTOR PROMPTLY REPORT YOUR BIRTH?

Other means of improving birth registration have been adopted by the health bureau. Certificates of registration of birth are mailed to the parents as soon as a birth is reported. Physicians and midwives are constantly urged by letter and otherwise to report promptly, and delinquents are sharply reminded by the health bureau that prompt reporting is demanded. In flagrant cases of delinquency the names of the offenders are referred to the director of the state bureau of vital statistics, who gives the matter his personal attention. Reports of deaths of infants under one year are checked against birth records to see if the births of these infants had been properly reported. If the total number of unreported births in the city of Rochester can be estimated on the basis of the number of unreported births of children who died within one year after birth—47 or 8.4 per cent. in 1914—the total number of unreported births in the city of Rochester is approximately 600. Put in this way, the need for improved registration is evident. Without the co-operation of physicians and midwives, improvement is impossible.

The following comment by the health officer on birth registration and the need for better cooperation on the part of physicians emphasizes the health officer's difficulties and the physicians' responsibility.

"In 1913 a statement was made in the annual report that of the 582 children who died under one year of age 7.3 per cent. were found upon the birth register to have been unreported. Just

about the same percentage of births were unreported this year, and just about the same men are criminally careless in their failure to report births. No man has ever been successfully prosecuted for failure to report births, even though it could be shown that to his failure to report a particular birth a woman with her two children had been compelled to remain in a foreign country because she could not prove that her children were born in America. No punishment has ever been meted out to these men, even though it could be demonstrated that a woman, the wife of a soldier, had been denied the pittance of a pension, because of the doctor's negligence to record their children's births and thus declare them officially born. As a final example of the suffering brought about as a result of carelessness in the reporting of births, we find the case of an American citizen, who, when abroad, was compelled to serve in one of the European armies because he could not prove by a birth record that he was an American citizen. His wife is left a widow with two children because the doctor did not report the birth of this man."

House-to-House Sanitary Survey as a Check on Birth Registration.

As previously stated, the sanitary inspectors of the health bureau are required to make house-to-house sanitary inspections within their districts. As an additional method of improving birth registration, it is suggested that, as a routine measure, they obtain the names of all children under two years of age. The names of these children should then be looked for in the birth records and, if not recorded, a record should be secured through the physician or midwife who attended the child at birth.

Cooperation With School Nurses.

Each month a list of all births attended by midwives and of all children born to laborers and others in similar social circumstances is made up by the registrar. The school nurses then visit the homes to advise and confer with the parents regarding their care, and to report to the health bureau such circumstances as may require the supervision of the health officer or his assistants.

Need for Additional Clerical Assistance.

The routine work alone which is performed by the registrar is extremely heavy. The work of transcribing approximately seven thousand birth certificates and about half as many death certificates, together with the preparation of all the various reports, tabulations, and summaries required by the health officer, the state department of health and the United States public health service is arduous and confining, and the registrar spends many hours in overtime service.

The health officer states that, owing to the quantity of work required, the registrar is frequently obliged to work on holidays and Sundays, and that, even with this extra service, much research statistical work must be neglected for the routine which must be cared for from day to day. It is recommended that an assistant registrar or copyist be employed at not to exceed \$840 a year as an initial salary.

PLUMBING INSPECTION.

General Procedure of Inspection.

Before beginning plumbing work the plumber must submit an application for a permit to do such work. This application is made on a blank form prescribed by the bureau of health, and furnished to the plumber, and specifies the kind and amount of work proposed. The application must be made out in duplicate, and both copies must be mailed or brought to the office of the chief plumbing inspector. If the application is approved, the chief plumbing inspector stamps both copies "approved," and returns one copy to the plumber. The other copy is kept in the office of the chief plumbing inspector, where it is filed under the name of the plumber who makes the application. The plumber then goes ahead with his work until it is time for the first inspection. He must notify the chief inspector when inspection is desired, and an inspector is then sent to see that the initial connections have been properly made. When the work is completed, the plumber applies for final inspection. When this has been made by the plumbing inspector, the application form is stamped "final." It is then taken from the name file and placed in a final inspection file, where it is filed by street location.

Complaints.

Complaints regarding plumbing are received in the same way as other complaints. On receipt of the complaint, the telephone operator makes out the usual duplicate complaint slip, one copy of which goes to the chief plumbing inspector, the other being retained by the telephone operator as a check memorandum. The chief plumbing inspector then sends a complaint notice to the owner or agent of the premises complained of, stating on a form similar to that used for other complaints, that complaint has been made, and an inspector will follow the notice to see that the cause of complaint, if any, is removed. The inspector then visits the premises complained of, and if cause of complaint is found, he issues an order on which is stated what must be done to conform to the regulations of the plumbing code, and a period of time within which the work must be done is stated on the

order. These orders are made out in duplicate, one copy for service on the owner or agent of the premises, the other being returned to the office as the office memorandum of the order. The date on which the time limit on the order expires is written on the corner of the carbon duplicate. Each morning these carbon duplicates of orders are examined and those on the particular date are taken from the file, and given to the inspector who visits the premises to see whether orders have been complied with. If not, the matter is then turned over to the corporation counsel for prosecution. The results of inspection for complaints are entered in the large street ledger previously described under the section on sanitary supervision.

Fines for Unpreparedness for Inspection.

If the inspector finds on his visit for first inspection that the plumbing work is not ready for his inspection and he is delayed thereby more than fifteen minutes, or if he finds it necessary to make a second inspection, the plumber in charge of the work is fined fifty cents for the first extra inspection and one dollar for each additional inspection, unless the cause shall have been unavoidable. If, when making a visit for final inspection, the inspector finds the work not ready for inspection, the health bureau notifies the master plumber in charge of the work, giving him ten days in which to complete the work. If not completed within this time, a fine of fifty cents is charged the master plumber and no further inspection will be made until this amount is paid. Receipts from fines are usually less than ten dollars a year.

Plumbing Inspection Not a Health Function.

Although the public health law of the state, evidently enacted with a view to emphasizing the importance of plumbing inspection as a health measure, requires that "The local board of health or the commissioner or commissioners of the board of health or the health department thereof, as the case may be, shall detail, designate or appoint an inspector or inspectors of plumbing * * * * *". All inspectors of plumbing who are detailed, designated or appointed, shall be practical plumbers. * * * * * and before entering on their duties as such inspectors, they shall each be required to obtain a certificate of competency from said examining board (Examining Board of Plumbers)." The value of plumbing inspection in health control has been very much over-estimated. Edwin O. Jordon, Professor of Bacteriology in the University of Chicago and editor of the "Journal of Infectious Diseases," says:

"Few dangers have loomed larger to the public eye than that from 'sewer gas.' Elaborate and amazingly expensive systems of plumbing are required by law to be installed in every newly erected dwelling house in our large American cities. Plumbing inspection to-day occupies a large part of the working force of many municipal health departments * * * * * and yet if the most recent and searching investigations, such as those of Winslow and others are to be believed, the actual peril to health involved in the entrance of small quantities of sewer air into houses is so small as to be practically negligible. It may be questioned whether plumbing inspection as ordinarily conducted, can be shown to save a single life or prevent a single case of disease. It might reasonably be maintained that slightly leaky gas fixtures are a more serious menace to the health of home dwellers than defective plumbing."

But plumbing inspection is required by state law to be a health function. The question is then how to get the most real health service out of the plumbing inspection force.

Cost of Plumbing Inspection.

The total cost of health service, exclusive of the cost of the municipal hospital service, was \$72,220.90. Of this amount \$7,485.87, or more than one-tenth, was spent for plumbing inspection, or twice as much as was spent for child welfare stations, and two thousand dollars more than was spent for milk inspection. With the exception of the cost of medical inspection of schools, it was the most expensive of the various kinds of service rendered by the health bureau in 1914, and yet it is impossible to say that it accomplished anything in the way of the saving of life or the prevention of disease.

The plumbing inspection service is under the supervision of a chief plumbing inspector at a salary of fifteen hundred dollars a year. Practically the entire time of this officer is spent in the office of the health bureau, interviewing visitors regarding plumbing work, assigning work to inspectors and checking inspectors' reports. Once each week he attends the meeting of the examining board of plumbers. There are in addition, five plumbing inspectors who receive \$1,260 a year. They describe their duties as follows:

At office 8 a. m. and 1 p. m.

Answer telephones.

Make out reports of previous day's work.

Notify plumbers of defective construction.

Inspect lateral sewers, drains, and rough work (new work).

Inspect defective plumbing and drainage, laterals and house drains and make orders to replace defects.

Look up reported violations of plumbing code, secure evidence and report same to chief inspector.

Locate water closets in old buildings and inspect cesspools and septic tanks and make out orders for same.

This tells little, however, regarding the work of plumbing inspectors, nor are their daily reports in sufficient detail to enable one to determine whether there is need for the employment of five assistant plumbing inspectors. The records do show, however, that more time than is necessary is spent by plumbing inspectors at the office. In the morning they rarely get out of the office before 8:45 or 9 o'clock, although they are supposed to report at 8. In the afternoon from half an hour to three-quarters of an hour is taken up in the office before they get out into the field again. The men should be required to call in at a convenient time at noon to receive any further assignments which may be required. They should report at the health bureau at 4:30 with their daily reports made out and ready to turn in. The chief inspector should then examine these daily reports and check them against the assignment sheet. Any inaccuracies or discrepancies should be explained by the inspectors and entered upon the daily reports, and assignments for the following day should be prepared.

The time clock, which all plumbing inspectors should be required to use, should show the following time record for plumbing inspections: In 8 a. m., out 8:15; in 4:30 p. m., out 5 p. m. This would mean seven hours and fifteen minutes in the field as against the present six or six and one-half hours. Time would be further saved by routing the inspectors' work in the method suggested.

Under such a system of assignments and daily reports, it would be possible to determine, in some measure at least, how much work was being done, and whether this work was being done as expeditiously as possible. This would, of course, be of value in determining whether a chief plumbing inspector and five assistants are needed.

Fees for Plumbing Inspection Recommended.

The value of plumbing inspection in community health protection has been discussed. The only person who derives benefit from plumbing inspection is the citizen who is having the plumbing done. Since he is the one to derive benefit from it, he is the one who should pay for it. The following plan is therefore recommended. A fee covering the cost of inspection should be charged for each plumbing inspection made. This should be charged against the plumber and that means, of course, that it will be included by the plumber in his bill to the citizen. The citizen knowing that he would be required to pay for

this service, would be more keenly alive to his own interests and would be likely to select a plumber for his work who would do the work at the lowest cost for inspection service. That is, the plumber whose work had to be subjected to an unnecessarily large number of inspections would soon get the reputation of incompetency and would not be employed. There would be a stimulus to competition among plumbers which would result in lowering cost as much as possible.

In 1914 the cost of plumbing inspection was, as previously stated, \$7,485.87, and approximately fifteen thousand inspections were made. The average cost of an inspection could thus be determined and a fair charge fixed for each inspection. The money thus saved for the health bureau might then be available for other health functions of proven value, such as food inspection, nursing service, municipal hospital etc.

MUNICIPAL HOSPITAL.

Staff and Duties.

The health officer is responsible for the general administration of the municipal hospital, and visits it almost daily. The business management of the institution, however, is under the immediate direction of a superintendent, who is a graduate nurse, trained in Bellevue Hospital in New York City. The responsibility for the admission, care, and treatment of patients is assumed by the health officer through a resident physician at the hospital.

General Description of the Hospital.

The municipal hospital plant occupies about twenty-six acres of land, about four miles from the center of the city. It is near enough to the street railway lines to be easy of access, but far enough away to be free from the noise of the cars. Except for small shrubs and a few small trees, no attempt has been made to put any of the land under cultivation. The superintendent states that in its present condition, the land is hardly worth cultivating, owing to the fact that as soon as the top soil has been removed, or turned up, a layer of hardpan is reached.

The hospital plant comprises a main or central hospital building, with its various connecting wings, two small isolation pavilions, a stable, and ice house.

The central hospital building consists of a two-story octagonal structure, four sides of which are extended into one-story wards. Three of the remaining sides are connected by passageways, with the superintendent's living quarters, the kitchen and storeroom, and a

pavilion or platform formerly used as a tuberculosis pavilion. The remaining side is the hospital entrance. This central structure contains on the ground floor, the office of the superintendent, two large sitting rooms, one on either side of the building, and the employees' dining room. The upper story is used wholly for living quarters for nurses and other employees and comprises twelve living rooms, and two bath rooms.

Each of the four wards, which are extensions from the sides of the octagonal part, accommodates about ten beds. The superintendent states that in an emergency, each ward could accommodate, without serious crowding, fourteen to sixteen beds.

Directly opposite the entrance to the main hospital building are two smaller frame structures, called respectively pavilions "A" and "B." Pavilion "A" consists of twelve small single rooms, and one large sitting room. Pavilion "B" has six small single rooms. Each of the two pavilions has two bath rooms for patients' use, and pavilion "A" has in addition a bath room, which is used for giving baths to patients about to be discharged. Pavilion "A" is used exclusively for smallpox patients, and is now unoccupied. Pavilion "B" is used as a detention or observation ward, and is also unoccupied.

At the rear of the main hospital building are the stables and ice house.

Care of Buildings, Grounds and Property.

Notwithstanding the fact that the hospital buildings are old and difficult to keep in repair, there is every evidence of painstaking effort on the part of the superintendent and employees to keep the hospital buildings cleanly and in good repair. The exterior of the hospital, however does not present an attractive appearance owing to the fact that it has not been painted for about seven years. In many places the paint has been stripped off, leaving the bare boards exposed. Not only does this make the hospital unsightly but in time it will make expensive and extensive repairs necessary.

The lawns and grounds were found in excellent condition at the time of observation.

Cases Admitted to the Hospital.

All persons suffering from communicable diseases, which in the opinion of the health officer require isolation, and such other cases of syphilis, ophthalmia, neonatorum, gonorrhea, erysipelas, as may require treatment and which for various reasons cannot be properly cared for at home, or are not acceptable to the other hospitals of the city, are received at the municipal hospital.

The enforcement of the Boylan law which went into effect April 14, 1914, and is designed to regulate the sale and use of morphine, opium, and other habit-forming drugs, resulted in the discovery of a large number of habitues of these drugs. Sixty-six such drug habitues and eleven alcoholics were cared for at the municipal hospital, because there was no other suitable place for their care. However desirable it may be to give these cases hospital treatment, it is not believed that the municipal hospital is the place for them. The municipal hospital is intended for the isolation of cases of communicable disease and the care of half-crazed drug habitues requires a service which is difficult and impracticable for the municipal hospital to give. It is recommended, therefore, that all such cases hereafter be committed to the county hospital.

Procedure for Admission and Records of Treatment.

Patients are admitted only on the approval of the health officer or the deputy health officer, who visits the patient before approving admission. On entering the hospital, the resident physician enrolls the name of the patient in the hospital together with all necessary data regarding the individual, his occupation, place of employment, previous illness, and the present illness and treatment that may be necessary. This history record bears a serial number which is used as a reference on all subsequent records of care and treatment.

During the course of the patient's treatment very complete records are kept of the course of the disease, treatment given, and laboratory examination made; and where a history is completed, all sheets are bound together and filed according to history number in small cabinets accommodating from forty to sixty histories each. A register is kept in which all patients are indexed according to name and also according to disease, reference being made to the case history number. In case complications occur during the course of the disease, these are also indexed and proper reference made. The entire record keeping system now used is well adapted to the purpose and excellently kept.

General Care of Patients.

The health officer has put into practice certain principles in the treatment of communicable diseases, which are based not only upon his twenty years' experience in dealing with such cases, but also upon what is best and latest in theory regarding these diseases. There is no elaborate system of segregation of ages or by disease; no adherence to ancient superstitions regarding the spread of disease by long distance air transmission; no difficult and time-wasting formulas of

treatment, but an abundance of sunlight, fresh air, good food, and the maximum of good medical attendance and nursing care. Every effort is made to make people comfortable, happy, and well, and to avoid the prison atmosphere which is so common in a municipal hospital.

Only one condition was observed which may be properly criticized, and this the superintendent states is to be shortly remedied. The hospital beds are an ancient type and very low, making it very difficult for nurses to handle patients properly. The superintendent is now endeavoring to get prices on modern hospital beds, which are manufactured in the state prisons.

Medical and Nursing Service.

Since the first of the present year a resident physician of experience and ability has been employed at the municipal hospital to carry out the directions of the health officer as to the medical care and treatment of patients.

There are five nurses, four of whom are on duty in the various wards during the day. At night one nurse is on duty, assisted during the winter months (November to June) by a night orderly. The superintendent makes an effort to regulate the hours of nursing service in such a way that all get a certain proportion of night duty. Each nurse is on duty about eight hours, the usual arrangement of shifts being 8 a. m. to 4 p. m., 4 p. m. to 12 midnight and 12 to 8 a. m.

Examination of the hospital records indicates that the municipal hospital is proving efficient service. In 1914, 335 patients were cared for at the municipal hospital. Of these sixty-six were drug habitues and eleven alcoholics, and eighty-five were diphtheria cases of a very severe type. When it is considered that these drug and alcohol habitues were for the most part physical wrecks, and the diphtheria patients, children of low resistance, on account of long illness and faulty conditions of previous care, the results of hospital care as expressed in mortality figures were extremely good. Of the thirteen diphtheria patients who died, eight were brought to the hospital only when they were in extremis and were in the hospital less than forty-eight hours before death. Sixteen deaths in the hospital were due to other causes as follows:

Scarlet fever	7
Morphinism	3
Syphilis	2
Cholera Infantum	1
Erysipelas	2
Measles and Broncho Pneumonia.....	1

The total of only twenty-nine deaths out of 335 cases cared for gives a mortality of 8.6 per cent., which for the kinds of cases cared for in the municipal hospital is a low figure.

Too much stress should not be laid upon the percentage of mortality in determining efficiency, however, as the health officer aptly says: "The efficiency of a municipal hospital is shown by the number of its vacant beds." This means that the promptness with which patients suffering from communicable diseases are made well and discharged from the hospital is the best indication that the right care and treatment have been given. The fact that the municipal hospital has a large number of vacant beds and in other respects presents every indication of adequate service is a matter in which Rochester citizens take pride.

It is, however, recommended that two additional nurses be employed, one for general ward service and relief duty and the other for "follow-up" work in the homes of patients while in the hospital or after leaving. Wherever it has been tried, it has been found that the contact which may be established between the hospital and the home through the hospital patient is a very effective way of extending hospital service. The nurse visits the home of the patient while he is in the hospital and advises the other members of the family how to keep well, assists in the improvement of living conditions, teaches home hygiene and public health and in general performs all the functions of the visiting nurse. When the patient returns to his home the nurse follows him to see that conditions are made right for his care until he is free from all danger to himself and to others.

Pay Patients at the Municipal Hospital.

There is no fixed charge for treatment at the municipal hospital. Patients are allowed to pay whatever they may be able for service and this is collected by the superintendent. A receipt is made out in duplicate, one copy being given to the payer and the other sent with the money to the commissioner of public safety, who in turn gives the superintendent a receipt for the amount. In 1914 patients paid \$493.27 for the services at the municipal hospital. Although this amount represents only a small fraction of the cost of patients at the municipal hospital in 1914, it would not be advisable to charge a fixed rate for the service, for in many cases it is impossible for patients to pay. The object of the hospital is, of course, not to make money but to provide isolation and proper treatment for such cases as may require it.

Laboratory Service.

Routine urine and blood examinations are made at the hospital by the resident physician. Examinations of specimens for the diagnosis of venereal diseases are made as required. An electrical incubator for making diphtheria cultures has recently been installed so that cultures can be made without delay. All final cultures must be checked by the health bureau laboratory, however, before a patient may be released.

Dietary.

Four diets are specified; regular, light, semi-liquid and liquid. The regular diet is a full diet, including meat once a day. No children under sixteen, however, receive the regular diet. The light diet consists of everything except meat, but includes eggs, and is full diet for children under sixteen. The semi-liquid diet consists of soup, bread and butter, milk, puddings, and all liquid goods. The liquid diet consists of liquids only, such as water, milk and fruit juices.

All diets are prepared in the main hospital kitchen, as ordered by the superintendent or resident physician. The regular diet is the same as that which is served at the table of the superintendent and his family, and at the table of the other employees. Hospital dietary is so often a just cause of complaint on the part of patients and employees that it is gratifying to find a hospital in which there is excellence of food preparation and service.

Improved Facilities for Keeping Stores Recommended.

There is only one small storeroom or pantry which is entirely inadequate for storing any considerable quantity of food. The superintendent states that purchases are made in small amounts. Meat is purchased daily and kept in a small ice box. Butter is usually purchased by the single tub and eggs by the single crate. Milk is purchased at six cents a quart from a nearby dealer whose dairy has been approved by the health authorities. Other provisions are purchased as needed. The facilities for storage should be increased so that it will be possible to buy staple articles in larger quantities. The experience of the department of charities in buying staple articles in wholesale lots demonstrates that considerable saving can be effected this way.

Better Stores Records Needed.

The small storeroom is in the charge of the superintendent. It is kept locked, articles being issued only upon the approval of the super-

intendent. No records are kept of requisitions and stores disbursements. The superintendent states that the amount of provisions kept on hand is so small that he is able to tell very easily the exact condition of stores. It is recommended, however, that stores records be kept which will show when and to whom stores were issued. A requisition slip should accompany such requisition. This slip should be signed by the superintendent or store keeper and receipted by the person receiving the goods. A stock record of receipts and disbursements should be kept which will show at all times the amount of goods or the number of articles received, the amount disbursed and the amount on hand. Any leakage of stores could then be detected and the responsibility fixed where it belongs. Similar provision should be made for stores other than provisions, such as bedding, clothing, drugs, etc.

Disposal of Wastes.

All wastes from the wards, such as dressings, are burned in the small furnace which heats the hot water for laundry and bathing purposes. The hospital is connected with the city sewer system. In winter garbage is turned under the stable manure, and in the summer it is spaded under the earth. This very effectively disposes of it and eliminates all danger of fly breeding. Ashes are used chiefly for making and improving roadways.

Ambulance Service.

Two horses are kept, one of which is always available for ambulance use. The ambulance, though old, is in excellent condition and has every facility for proper protection of the patient during transportation to the hospital. The superintendent accompanies the ambulance on all calls. No record is kept of ambulance calls, however, except that which is indicated in the admission record and this states merely how the patient came to the hospital, whether by ambulance or otherwise.

Disputes frequently arise between physicians and others regarding ambulance service. For the protection of the hospital as well as the patient a record of every ambulance case is necessary. It is recommended, therefore, that an ambulance record be kept which will show the following facts:

Date

Time call received.

From whom received.

Location of case.

Time of ambulance departure.
Time of arrival of case.
Time of arrival at hospital.
Nature of case.
Signature of ambulance attendant.

Employees' Quarters.

With the exception of the superintendent and his family, employees are quartered on the second floor of the central part of the main hospital building. There is no other place at present where employees can be housed, and so it is necessary that all employees, both male and female, should live on the same floor. These rooms are comfortably furnished, light, and otherwise satisfactory except that the quarters of male employees are not separated from the quarters of the nurses and other employees. It is recommended, therefore, that some provision be made for segregating unmarried male and female employees. The chief difficulty is in determining how this may be done without the construction of a new building, but at all events it should be done.

Fire Protection.

At each side of the hospital building is a hydrant, with two hundred feet of hose, sufficient to reach all parts of the main hospital building, the outlying pavilions, and the stable. Within the main hospital building and on each side of the central two-story structure is a hose connection with hose lengths sufficient to reach all parts of the interior of the building, and the connecting wards, and living quarters. There are six fire extinguishers located at easily accessible points in the main hospital building. Fire escapes are unnecessary for the wards, owing to the fact that they are all one-story structures. The risk is somewhat greater for employees, however, as their quarters are in the second story of the central part of the main hospital building, and for their protection it is recommended that fire escapes be provided which will be easily accessible.

Lighting, Heating, and Ventilation.

All hospital buildings are exceptionally well lighted during the day and the wards get sunlight practically the entire day. Electric lighting from the city power company is provided throughout.

The main hospital building is heated by two large boilers which furnish a ton pressure steam heat. Hot water for bathing and laundry purposes is furnished for the main building by a small coal furnace

in the basement. The two pavilions, "A" and "B", are heated separately, pavilion "A" by hot water, "B" by small coal stoves. Owing to the rather flimsy construction of the present hospital buildings it is said by the superintendent to be extremely difficult to heat the main hospital building in winter. The building, which is simply the outgrowth of a temporary isolation hospital for smallpox cases at the time of the great epidemic, should be carefully gone over by a heating engineer to determine what is necessary either for increasing the heating plant or for providing better protection of windows, walls, etc., against the cold. At present pavilions "A" and "B" are practically unused. If, however, these pavilions are to be made really serviceable for emergency use, they should be properly heated and from the main heating plant instead of separately. The pavilion formerly used for tuberculosis patients should also be provided with steam heat from the central plant if this building is altered for use as a venereal disease ward.

Ventilation in all buildings was good at the time of the investigator's visit. Windows were open throughout the entire building and there was a complete absence of all hospital odor.

Kitchen and Laundry Equipment.

All food for both patients and employees is cooked in the kitchen on a coal range, except such small quantities of food as may be prepared by the nurses in the wards. The kitchen and equipment were in excellent condition at the time of observation.

The laundry work for the institution is done in the basement of the main hospital building. A modern, well equipped laundry plant is provided which is operated by an electric power motor.

Care of Clothing and Property.

Following the entry of the patient's history in the record book, his clothing is removed and his property taken for safe-keeping. A list of such clothing and property is made out on a special form, and is signed by the nurse who takes charge of them. All property is listed and kept by the superintendent, who gives the patient a receipt for it. Outside clothing is hung up in the basement on hangers, and exposed to light and air, until the time of the patient's discharge. Underclothing and linens are thoroughly washed and returned to the patient on his discharge.

Purchase of Land Recommended.

The purchase of six acres on the east of the hospital in order to bring the hospital property out to Waring Road is recommended. This

purchase would not only provide a section of land suitable for cultivation for garden purposes but would also allow the construction of a suitable driveway and approach to the hospital.

PUBLICITY AND EDUCATION.

Excellence of Educational Publicity.

The health bureau of Rochester has gained an enviable reputation among public health workers for the character and general excellence of its educational work. No part of educational publicity has apparently been neglected. The newspapers are used by the health officer to the fullest possible extent; moving picture exhibits are held; the monthly bulletins of the health bureau contain timely articles on public health topics as well as a complete summary of the work of the department month by month; and special bulletins are prepared from time to time on important public health subjects. Among the topics which have been made the subjects of recent special bulletins are the following:

Measles, A Dangerous Infectious or Catching Disease Causing Much Deafness.

Teeth, Tonsils and Adenoids.

Notes on the Treatment of Diphtheria.

Important Suggestions for the Administration of Diphtheria Antitoxin.

Whooping Cough. A Dangerous Infectious or Catching Disease. Poliomyelitis, "Infantile Paralysis."

How to Take Care of Babies During Hot Weather.

Little Mothers' League.

Flies Carry Germs.

Milk and Education.

Municipal Regulation of the Milk Supply.

The Economic Production and Distribution of Uninfected Milk. Clean Milk.

"But A Thousand A Year," The Cost and the Results in Rochester of Feeding Clean Milk as Food for the Hand-fed Baby. Plan of a Model Ice House.

Rochester Cold Box, Directions for Building an Inexpensive Refrigerating Box Which May also be used as a Fireless Cooker.

The value of such publicity is incalculable, and all progressive health departments have come to recognize health publicity as one of the most effective agencies for health control. In many large health departments a bureau of publicity and education has been established

with high-salaried employees to advertise health. In Rochester, however, the cost of publicity has been low because the health officer and the deputy health officer have assumed the added bureau without additional help.

THE FINANCES OF THE HEALTH BUREAU.

Rochester's Per Capita Cost Low.

Close examination of the work of the Rochester bureau of health indicates that excellent results are being obtained at a low per capita cost. If the experience of other cities counts for anything, Rochester is spending too little,—only thirty cents per capita in 1914. The slogan of the New York health department is "Public health is purchaseable; within natural limitations any community can determine its own death rate." It is certain, however, that best results cannot be obtained at so low a cost. The present efficiency of the health bureau in certain lines of health service is not a reason why a policy of retrenchment should be adopted, but on the other hand it is an argument for increased appropriations. If such excellent results can be accomplished by the expenditure of such a small amount of money, much more can be accomplished by spending more. Eternal vigilance is the price of safety in health work. The discontinuation or the lessening of any of the health protective forces known to be effective is almost invariably followed by serious results to the community health. No city can congratulate itself upon a low infant mortality rate, good control of communicable diseases, the efficiency of its school medical inspection or its excellent sanitary control unless it can be certain that all is being done which should be done—and all is not being done in Rochester—because funds are lacking.

As previously pointed out, thousands of Rochester school children are not receiving the advantage of medical inspection, although we know that this is one of our most effective health measures. Meat inspection is unprovided for, although there is no doubt of the sale of diseased contaminated meat in the city; infant welfare work, which has resulted in giving Rochester an exceptionally low infant mortality rate, has not been carried on in many sections of the city because of lack of funds; milk inspection in the city has been done as effectively as possible with the means at the command of the health officer, but more work and more money is needed.

Preventive health service is the greatest need of any community. The mere holding in check of certain sources of sickness and death is not sufficient. We say, for example, in perfect truth that diphtheria, typhoid fever, and other dangerous communicable diseases are abso-

lutely preventable, and until we have absolutely prevented them our health service has not accomplished its purpose. Dr. William H. Park, director of the laboratories of the New York City health department is authority for the statement that cities of 100,000 to 300,000 population should spend at least eighty-five cents per capita for health service. Rochester need not spend so much. An increase of the per capita for health from thirty cents to thirty-five cents will provide the major part of the additional service herein suggested; an increase from thirty cents to forty cents per capita will amply supply all the service needed.

Increased Salary Cost Recommended.

Increase of salary of health officer.....	\$ 1,000.00
Two sanitary officers (transferred from bureau of police).....	Transfer
Veterinarian meat inspector (new).....	1,800.00
Milk inspector (new).....	1,200.00
Supervising school nurse (new).....	900.00
Three school nurses at \$840 (new).....	2,520.00
Two physicians for high school medical inspection at \$900 (new).....	1,800.00
Permanent laboratory assistant (new).....	720.00
Copyist or assistant to registrar (new).....	720.00
Two nurses at Municipal Hospital at \$540 (new).....	1,080.00
Total increase for salaries.....	\$11,740.00

Economies Suggested.

The adoption of the plan recommended for eliminating the cost of plumbing inspection by charging the plumber a fee sufficient to cover the cost of inspection would produce a yearly saving of about \$7,000. Further saving may be made by discontinuing the payment of \$2,000 a year to the Rochester Public Health Association and by payment for the care of babies at the Infants' Summer Hospital at a daily or weekly rate rather than by a lump sum of \$4,000 a year.

DEPARTMENT OF CHARITIES.

GENERAL ADMINISTRATION.

Organization and Functions.

The organization of this department is in general provided for by the charter, Article XIII of which provides as follows:

“The commissioner of charities is the head of the department of charities, and may appoint to hold office during his pleasure, a deputy, an overseer of the poor and such other subordinates as may be prescribed by the board of estimate and apportionment.”

The commissioner has supervision of the expenditures of the money of the city for the support or relief of the poor, and he must make regulations for such expenditures. He must furnish to the mayor a daily report of the aid and relief granted by him with the names and addresses of all recipients, and he has such other powers and duties as are not inconsistent with the provisions of this act or the other laws of the state as may be prescribed by the ordinances of the common council.

“No such person except one having or suspected of having a contagious disease, may be maintained at any institution at the expense of the city unless the commissioner certifies that such person is an indigent person and a proper city charge.

“The overseer of the poor may, with the approval of the commissioner, appoint to hold office during his pleasure such subordinates as may be prescribed by the board of estimate and apportionment, and possess, subject to the regulations and supervision of the commissioner, all the powers and authority of overseers of the poor in the several towns of the county of Monroe and is subject to the same duties, obligations and liabilities.”

Control of Poor Relief Divided.

It is evident from the foregoing statement of the charter provisions that the administrative control of the department is placed in the hands of the commissioner, and that all expenditures for relief require his approval, yet the actual supervision of poor relief has been delegated to the overseer of the poor, and the commissioner has become merely an associate in the administration of the department. The law gives the commissioner power to appoint certain employees and also gives the overseer of the poor power to appoint certain employees, provided the commissioner gives his approval. Responsibility for

the control of appointees may, therefore, be divided, and as a matter of fact, it is difficult under the present administrative plan to determine just where the responsibility of the commissioner ends and the responsibility of the overseer of the poor begins.

There is no need for both a commissioner and an overseer of the poor, for the overseer simply performs functions which should be performed by the commissioner and for which, under the law, the commissioner is held responsible. It is therefore recommended that the commissioner shall be given the sole responsibility for the administration of the department, and that the office of overseer of the poor be abolished.

Department of Health and Charities Suggested.

The suggestion is made in the report on the health bureau, that the bureau of health and the department of charities be consolidated as a department of health and charities under a commissioner of health and charities.

The department of charities under this plan, however, would become a bureau of charities, and the title of commissioner should be changed to the title of superintendent or director of charities. The head of this proposed department of health and charities would be called the commissioner of health and charities. Amendment of the city charter is necessary to effect such reorganization.

Financial Records of the Department.

The deputy commissioner is the bookkeeper of the department. He makes out all requisitions for purchase and transmits them to the purchasing agent, audits all bills, and prepares and transmits to the mayor a monthly report of receipts and expenditures, together with a statement of all outstanding obligations of the department. He also keeps a claim register, which shows all facts regarding each claim.

A card index is also kept in which the claimants are indexed alphabetically, reference being made to the claim register.

The system of bookkeeping which is now in use was installed a short time ago by an accounting firm, and so far as can be ascertained, meets present needs. The records of the deputy commissioner are complete and well kept.

RELIEF OF THE POOR.

Routine Procedure.

The procedure in furnishing out-door relief presents many glaring faults. In order to show the defects of the present system each step has been taken up in detail.

Application for relief must be made in person, if possible, by the person desiring aid. The applicant is interviewed by the overseer of the poor or one of the investigators and the history of the applicant and his family is recorded upon a form which calls for the following information:

Applicant
 Address
 Application received, 191.., at
 Investigated at, at, 191..
 Children
 Nativity Ages
 Trade or Occupation
 Number of persons assisted in home: Male..... Female.....
 Number able to, but out of work
 Sick Attended by Dr.
 Rent Paid by
 Length of time in U. S..... In State
 Port of landing Steamship Co.
 Continuously in city service
 Insurance
 Spanish War Civil War Exempt Fireman
 Received help from
 Now being helped by.....
 Money or property
 Cause of Present Condition
 Remarks
 Taken from
 Case Taken by
 Relieved

The overseer of the poor then enters in a book called the "day book" the name and address of the applicant. The investigators go to this book each morning and from the entries therein map out their work in the field. Many of the application forms are filled out entirely in the office, and aid provided without home investigation. These applications, after home investigation or not, as the overseer may see fit, are passed upon by the overseer of the poor, who initials them and makes brief memoranda of the kind and amount of aid to be allowed. They are then given to the investigator in charge of the "issue book," which is a record of the persons receiving aid and of the amount and kind of aid given them. The investigator in charge of this "issue book" then gives each successful applicant an order, based

upon the memorandum of the overseer, for shoes, groceries, coal, or other things needed.

The application form thereupon goes to another investigator, who, notwithstanding the title of investigator, performs little field work, his time being chiefly taken up with clerical work. The investigator copies the information contained upon the application blank into a large book called the "record book." These histories, as copied into the "record book," are written very neatly and painstakingly in long-hand in the order in which the applications are received—four histories to the page. A new record book is begun each year, and an index book is kept for each year's record book. In the index book all the names of persons who have received aid are listed alphabetically, and reference is made to the record book by year and page, where the history of the individual may be found.

In addition to the records described, a card index is kept in which is recorded for each family receiving aid, the name of the family, the cause of destitution, the kind and amount of relief given, and the reference to the record book where the histories may be found.

Investigations Inadequate.

It is a cardinal principle in the administration of poor relief, that before any relief shall be given, unless the case is in obvious emergency, a thorough investigation shall be made. The overseer of the poor believes that thorough investigations are made, but close analysis of the records show that they are not, or if made, are not made a matter of record. Even if properly filled out, the application form does not present the sort of information which the officer should have who is responsible for determining the kind and amount of aid to be given. The kind of information which such a record should contain is not a matter which should be left to inexperienced opinion. Neither is it a matter which should be limited to the bare facts as to the settlement of the individual, however important these facts may be. A record form has been prepared by the charity organization department of the Russell Sage Foundation, which is based upon years of experience and most careful study by competent authorities. Its purpose is to convey to the examiner or the authority responsible for the administration of poor relief—not only the individual's legal right to aid on the basis of his settlement but also all the information necessary to establish his moral right to such aid and to furnish the facts which will enable the person in charge of relief to diagnose the cause of indigence and the best method of removing the cause. The highest mark of efficiency in the administration of poor relief is found in

private organizations—such as the United Charities of Rochester and other cities where such investigations and such records are made; where effort is being made not only to give relief commensurate with the needs of the individual or family, but also to find out the cause of poverty and to remove it—in short to rehabilitate the individual and his family and to make self-respecting, self-supporting citizens.

Not only are the investigations conducted by the department of charities inadequate as to the kind and amount of information required, but they are also incomplete. Even the information asked for is frequently omitted from the record. In the majority of cases, entries are made out in pencil and notations of the investigators are sometimes almost indecipherable. There is absolutely nothing on record to indicate that any intelligent effort has been made to get at the cause of the individual's indigency, nor is there any indication that the aid given is commensurate with the applicant's need. The mere statement that \$1.50 or \$2.00 a week in provisions or other relief has been allowed means nothing. If the applicant should actually need more, the allowance of such weekly dole is inadequate and accomplishes practically nothing in the way of enabling him to get upon his feet and regain his place in the community. If he needs more, he should get more; if he needs none, none should be given. To sum up the whole matter, a precise determination of the applicant's needs is essential, and without the kind of investigation which will demonstrate what these needs are, no system of poor relief can be efficient. Inefficiency of administration means that paupers will be made instead of eliminated, and that the poor who really need help will be made to suffer because their real needs are not met.

Yearly Investigations.

When once an individual gets upon the books of the department, there is little interest taken in his case, aside from furnishing him his weekly dole in groceries or other material relief. If the individual should request a discontinuance of aid, aid will of course be discontinued, but there is practically no effort made by the department to keep in touch with the circumstances of the applicant or his family, to find out whether the sickness which may have been the cause of his dependence is over, or to discover whether his plea of "out of work" is still the proper cause for granting relief. Once each year an investigation is made of all cases receiving aid and a general readjustment is made. New investigation forms are made out and stamped "reinvestigation," and the overseer of the poor simply endorses them for continuation or discontinuation of aid. This is an

inadequate method of "checking up." A yearly investigation of the kind performed, based as it is so largely upon the unsupported statements of the recipients of aid, means little. Under any circumstances, it is not a yearly investigation which will bring out the truth, but close study and frequent personal contact by competent investigators.

Method of Filing Reports of Investigations.

As previously stated, the information contained on the application blank is copied in the record book. As soon as copied, the original records are arranged in chronological order and stored. The reports resulting from the yearly investigations just described are stamped "reinvestigation" and are separately packed and stored away. They are of no further use to anyone, for the history which is written up in the record book is simply a copy of this original record. There are therefore two complete writings of every history where one should suffice.

Illustration of Reinvestigation Record.

The following history, taken at random from the record book of 1914, shows clearly the inadequacy and incompleteness of records which has been commented on in preceding paragraphs. This is a record of one of the yearly investigations. The names of individuals and their addresses have been omitted for obvious reasons:

Applicant W and L B

Address 4 place

Application received—May 1914.

Investigated at House, at M 1914.

2 Children—James 17, May L 8.

Nativity—Canadian, Ages 42, 58.

Trade or occupation, painter.

Number of persons assisted in homes—Male 2, Female 2.

Number able to, but out of work

Sick, W.....

Attended by No doctor.

Rent,—\$3.50.

Length of time in the United States, 46 years.

In State, 46 years.

Port of landing, Charlotte.

Steamship Company

Continuously in city since, 20 years.

Insurance Prud. W.....10ct. wife 20 ct. James 10ct. May 10ct.

Spanish War..... Civil War..... Exempt fireman.....

Received help from city . . . first about 15 years ago and since.
Now being helped by the city—Gro. \$1.50, coal and shoes.

Money or property—No.

Cause of present condition—is an epileptic.

Remarks—W . . . has done nothing in past year. Wife does cleaning, earned \$2.50 last week. Son James works for a milkman. Earns \$5.00. Income \$7.50. Rent \$3.50. She has to buy son's clothes, etc. D. May L. goes to school. Don't think she can get along without help as her husband cannot work.

Taken from, Wife.

Case, City.

Taken by E. E.

Relieved—Continue.

Analysis of the information contained in this record which is a typical one, shows the following facts:

- 1—Under the heading “number able to, but out of work,” there is no entry, although it is later brought out in the history that the seventeen-year-old son is working and that the mother is also working.
- 2—It is stated that the husband is sick and an epileptic and that he has done nothing in the past year. We do not know, however, whether this was the diagnosis of a physician or the diagnosis of a lay investigator, who certainly could not have been competent to diagnose epilepsy. No statement is given to substantiate the statement that this epilepsy, if existent, was a cause of complete disability and inability to work. The record states that he was attended by “no doctor”, and yet a physicians' services are about the first thing the man should have if he is physically incapacitated. Proper treatment might render him able to work and support his family
- 3—We learn that he first received help from the city “about 15 years ago and since,” but this is not definite enough to enable the overseer to determine when and what kind of aid was given.
- 4—The fact that the family is now receiving city aid and the amount and kind of aid is stated, there is no information as to whether the individual is being otherwise aided by private charity.
- 5—There is no information regarding the physical health of other members of the family, no facts regarding home conditions or environments; none regarding previous employment or the possible influence of his occupation on his present condition, and no indication that anything, other than the provision of a weekly dole, has been done to make this family self-supporting.

Difficulty in Securing Complete History.

The example of a history record cited in the previous paragraph illustrates the difficulty in securing a complete history of the particular case. This family had been aided according to the record, "first about 15 years ago and since." In order to find out when and under what circumstances aid was previously given and to throw some light upon the present needs of the family, it was necessary to go back year by year to each record book in which the name of this family appears. This meant the consulting of several large and unwieldy volumes—a time-wasting task, and even when all the previous histories had been found, little added information was obtained because of the incompleteness of the histories.

The following histories copied at random and verbatim from the record book show clearly the futility of such records:

1. He is 43 years, Wife 54 years. Step-son 33 years. Always lived in America. Always lived in State of New York. And lived in city of Rochester 17 years. He is a laborer. Earned last week 75 cents and out of work since last Fall. Wife earns \$2.25 a week. Total incomes \$3.00 a week. Rent \$2.00 a week. And has not heard from step-son in 4 years. Supposed to be in Alaska. Assisted by city since 1912 to groceries and coal, and now assisted by city to groceries \$1.50 a week. No money or property. No insurance. Wishes help continued.
2. He 33 years. Wife 32 years. 4 children—11, 4, 3, 1. Always lived in America. Always lived in State of New York and lived in city of Rochester 26 years. He a machinist and now painting. Earns \$8.00 a week. Rent \$3.00 a week, but not working full time. Assisted by city since 1911, and now assisted to groceries \$1.50 a week. No money or property. No insurance. Wishes help continued. Cause—Insufficient income.
3. He 44 years. Wife 40. 4 children—19, 15, 12, 7. Always lived in America. Always lived in State of New York. And lived in city of Rochester 26 years. He a machinist and doing odd jobs. Wife looks after the home. Son a clothing trimmer. At Earns when working full time \$11.00 a week. Started on cutting. Rent \$4.50 a week. Incomes \$4.00. Assisted by city some 14 years ago and since. And now assisted by city up to 2 weeks ago to groceries \$1.50 a week. Bought the property 3 years ago. Paid \$50.00 down and paying \$4.50 a week water taxes and interest. Value \$2,300. Says they can get along.

4. He 30 years. Wife 30 years. 3 children—1, 7, 5. Always lived in America. Always lived in State of New York. And lived in city of Rochester since 1904. He a plumber in M. C. P. Will be out Jan. 1915. For abandonment of family. And wife works for Earns \$8.00 a week. Rent \$3.50 a week. Assisted by city on different occasions since 1909, to groceries, coal and non-support order, and now assisted by city to groceries \$1.50 a week. No money or property. No insurance. Wishes help continued.
5. A widow 67 years of age. 2 children—41, 23. Came from Ireland to America in 1860, and since lived in State of New York and lived in city of Rochester since 1884. Says she earns 25 cents a week, and works in laundry. Earns \$4.50 a week. Total incomes \$4.75 a week. Rent \$2.50 a week. Paid by (son) (daughter.....). Married (Name). Lived on (street). Assisted by city 1913, and now assisted by city to groceries \$1.00 a week. No money or property. Ins. 10 ct. 10 ct. in Prud. Co. Wishes help continued.
6. He 44 years. Wife 42 years. No children. Always lived in America. And lived in State of New York 14 years, and lived in city of Rochester 4 years. He a glazier and sick for past year and went to Buffalo 2 weeks ago. Wife a dress-maker. Earns \$3.00 a week. Rent \$4.00 a week. He has papered the house and applied on rent. (Name) Her mother, sick. Assisted by city since 1913 and now assisted by city to groceries \$1.50 a week. No money or property. Ins. He 19 ct. in John Hancock. Wife 10 ct. in Met. Wishes help continued.
7. He 34 years. Wife 26 years. 4 children—8, 5, 4, 1. Came from Ireland to America in 1898 and since lived in the State of New York. And since lived in the city of Rochester. He a laborer and out of work 3 weeks. No incomes. Rent \$3.50 a week. Assisted by the city on different occasions since 1911. And now assisted by city to groceries \$1.50 a week. No money or property. Insured, He 40 ct. Wife 15 ct. Children 10 ct. each in Prud. Wishes help continued.

Several interesting facts are brought out in these histories.

History 1—for example, is of a laborer, middle aged and in good physical health so far as can be learned. His wife is also in good health. No evidence is given as to his habits, his place of previous

occupation, or his willingness to work if work were given him. Apparently no effort was made to find the son who might support them or to find work for the man himself or his wife, and yet the city has been supporting him since 1912.

History 2—is of a man and his wife, both young and able-bodied. They have four children, all too young to work. The man is a machinist by trade, but he is now earning only \$8.00 a week as a painter on part time. Nothing is said, however, about where he worked as a machinist, what he earned, or why he is out of regular work. No statement is made as to his habits, or competence, or ability, and yet he has been assisted by the city since 1911—four years. Surely something is needed here besides a mere weekly dole.

History 3—is of a man and his wife, both middle aged and able-bodied, with four children, two of whom are of working age. The man is a machinist, but out of regular work and now doing odd jobs. Why he is out of work, where he worked before being out of work, what his habits are, and many other facts of importance are omitted. We learn that the son earns \$11 a week, and yet the total income is stated as \$4 a week. The history shows that for the past fourteen years this family has been assisted, but when, or how, or why is not said. For the past three years the family has been buying a house and lot valued at \$2,300, paying \$50 down and \$4.50 a week. This the city has helped them pay for, and now the family says “they can get along.”

History 4—is of a couple, young and able-bodied, with three young children. The husband is in the penitentiary for abandonment of his family. His wife works and earns \$8 a week. Since 1909 these young, able-bodied people have been supported in large measure by the city, and yet the history tells us nothing about this man, except that he is a plumber and in jail for abandoning his family. Perhaps if something had been done for him six years ago to make him a self-supporting, self-respecting person, it would not now be necessary to keep him in jail. There is no information as to the man's habits, his ability or his previous places of occupation, no testimony from his employers as to his value as a workman. It would be worth while, perhaps, to know why an able-bodied young man, thirty years of age, with a capable wife and three small children, should abandon them to be supported by the city—but no apparent attempt has been made to find out why.

History 5—is of a widow sixty-seven years of age with an able-bodied son of working age, twenty-three, and a married daughter. The department should know why an able-bodied young man of twenty-three years cannot support his mother, who is apparently not sick.

What has been done to impress upon him his responsibility for caring for his mother? What has been done to provide him with employment so that he can support her? No facts are supplied which will inform the reader as to the character of the son, the financial ability of the married daughter, the place of business of the son and his working ability. Nothing which will enable an overseer of the poor to judge the merit of this case has been supplied, and yet for the past two years the city has been paying in part for their support.

History 6—is of a glazier and his wife, each of middle age and without children. It is stated that he is sick, but no facts given as to his sickness, the cause of it, and the visits of the doctor, if any. Apparently no effort has been made to cure him of his illness. Although he was sick and out of work, he went to Buffalo “two weeks ago” according to the report. Whether he is in Buffalo now or elsewhere is not stated. Nothing is told of his previous places of employment, whether he is temperate or intemperate, or what he is capable of earning when employed. For the past two years he has been a city charge, but has been sick only for the past year. It would be interesting to know how he first came to be a city charge, and what has been done for his sickness.

History 7—is of a couple, young and able-bodied, with four small children. They have been city charges since 1911, four years. We learn nothing of the character or ability of these people, except that the man is a laborer and has been out of work three weeks. No facts are given as to his previous employment, and apparently no effort has been made to find employment for him.

Name Index File.

A card index file is kept in which a record of the cause of destitution, and the kind of relief given, and amount, including medical aid given, or institutional aid is entered. These cards are filed alphabetically. The information found on these cards is limited to a brief entry of the cause of destitution, the particular kind of relief given and the page reference to the history record book. The cause of destitution is set down as illustrated.

“ Out of work.”

“ Sickness.”

“ He supposed insane.”

“ Cripple.”

“ Abandonment.”

“ Non-support.”

“ Supposed insanity.”

In cases of sickness this record shows that the doctor was sent or that the person was sent to the hospital, and then discharged from the

hospital, the fact of discharge is noted upon the card. The record does not show, however, what happened to the patient in the hospital, or whether he was discharged as improved, unimproved, or otherwise. In short, it fulfills none of the purposes of a record of the individual.

This record file was begun in 1912. It is not a record of current cases only. It includes all cases which have been dealt with by the department since the card index was started. Terminated cases are not taken out of the file, nor are they marked "terminated." The chief investigator states that he is able to tell whether the case has been terminated by examination of the "issue book," which shows when orders cease to be issued, and in case the patient was sent to the hospital, the notation "discharged" would indicate that the case was terminated so far as the department was concerned.

Not only is this record, as it is now kept, of little service to the department, but the card itself is an extravagance. The card is a regulation 5" x 8" card, and in the majority of instances, contains only a few entries. The back of the card is entirely unused. There are so many of these cards that a cabinet about four feet high and three feet wide is necessary. A card index for ready reference might be a help if the histories were worth while. There is, however, no need for any such index. If proper histories were kept and all material relative to each case filed with the histories, which are properly indexed, there would be no need for any other record.

Causes of Destitution.

The department classifies all cases aided according to the "causes of destitution" in its report for 1914, as follows:

Sickness.....	1,214
Out of work.....	824
Desertion.....	114
Non-support.....	140
Old age.....	218
Widows with dependent children	162
Tuberculosis.....	126
Cripples.....	44
Blind.....	8
Insane.....	32
Accident.....	150
Alcoholic.....	166
Crime.....	32
Burials.....	39
Insufficient income.....	128
Feeble minded.....	39
Orphans.....	33
Total.....	3,469

Such a classification is, of course, an arbitrary one and of little value. If the causes of poverty and destitution were so easily classified, the problem would be wonderfully simplified. The reason why an individual becomes sick may be that he is out of work; or vice versa; desertion of his family by a husband may result from the fact that he is out of work or alcoholic; non-support usually precedes or follows desertion; or may be the result of some one's sickness, lack of employment, criminal tendency, alcoholism or other of the "causes of destitution" listed. It is not only impossible to classify the "causes of destitution" in this way, but such a classification is of no value. Too little care is evidenced in the taking of histories to place any confidence in this record.

Relief Too Readily Granted.

According to the annual report, the number of investigations of families relieved was 3,995, of which 3,469 families, or approximately 87 per cent., were given city aid. Of the 526 cases which were denied city aid, the following reasons are given by the department for such denial:

- 54 were referred to G. A. R. relief committee.
- 27 had property.
- 20 had money.
- 20 had income sufficient to support themselves.
- 1 was a state case.
- 131 were county cases.
- 49 were town cases.
- 233 were deemed unworthy.

This means that out of 3,995 applications for city aid, only three hundred, including those who had property, money, or sufficient income, and those deemed unworthy, were denied city aid because of their ability to support themselves otherwise, or for other reasons not clearly stated.

It is difficult for one who has studied the administration of poor relief to believe that out of the 3,995 applications for relief, only three hundred applications were not justifiable, excluding, of course, those cases which were found to be outside of the jurisdiction of the city department. The total of 3,469 applications approved does not of course, mean the number of individuals, and 3,469 applications may mean several times that number since the application is most commonly made by the head of a family. No record is available of the number of persons included in these 3,469 applications, but it is fair to esti-

mate that there were approximately three times as many persons aided or about ten thousand persons.

A comparison of the results of investigation by the Rochester department of charities with the results secured by other municipal and private organizations for relief, shows clearly that there is need for more thorough investigations in Rochester. In Denver, a city comparable to Rochester in size and in the character of population, where an efficient system of investigation of applications has been established the following results were secured the first year. Out of 1,997 applications for relief, only 1,157 or 57 per cent were granted after thorough investigation by trained social workers.

In the report of the commissioner of charities, the commissioner states that the department has been liberal in its treatment of the worthy poor. It is proper that the worthy poor should be provided for, not "liberally," but according to their need, but first it should be discovered who the worthy poor are and what their needs are. It is evident that this has not been done.

Lack of Trained Social Workers Hampers Efficiency.

As already shown there are five investigators in the department, three of whom are doing office work almost entirely. All are men and none is trained for the work which they are called upon to do. The importance of special training of investigators or social workers has been demonstrated so frequently that it seems superfluous to comment upon it here. Training schools have been established in many of our large cities where persons may receive instruction in social welfare service. It is axiomatic that women are better social workers than men, for they are better able to get that contact with the home, through the mother and children, which is so essential. One of the chief reasons why better results have not been obtained in Rochester—and perhaps the chief reason—is because the men who have been charged with the responsibility of establishing the contact of the department with the home have not been fitted for their task. That they have perhaps performed their work to the best of their ability means nothing so far as their efficiency is concerned, for the kind of service which they should have rendered has not been rendered and never will be as long as the investigators are merely inspectors.

Investigators as Clerks.

Three investigators are doing office clerical work almost exclusively. An analysis of one month's service by the investigators shows clearly that the majority of field investigational work is done by two investigators.

<i>Investigators.</i>	<i>Investigations.</i>
B	177
E	146
M	40
T	13
H	2

The last three on this list are the investigators whose work is almost exclusively clerical. Inspector M, who made, according to his record, forty investigations during the month, receives \$1,200 a year, the other investigators \$1,080. No time records showing the work of any of these employees are available, and determination of the efficiency of their work must be made upon the basis of the records of their investigations. As already pointed out, these records are of little value. While the salaries paid are not excessive, yet it is certainly extravagance to use investigators for clerical service when the greatest service they can render is in the field.

Cost of Poor Relief in Rochester.

In 1914, \$133,471.91 was appropriated and \$133,270.50 was spent. Three thousand four hundred and sixty-nine families were aided at an average cost of \$39 per family, and yet the impression made upon the poverty of the city of Rochester by this great expenditure was practically nil because the things which should have been done to rehabilitate these families were not done. The United Charities of Rochester assisted 1,212 families in 1914 at a total cost of only \$24,679.74, or an average cost of \$20 per family. But the important fact about the assistance given by the United Charities is not that it cost about half as much for each family, but that something was done to make the families self-supporting and self-respecting, in short, to rehabilitate them.

In the present year an appropriation of \$154,628 was allowed. In the first three months of the present year, admittedly months of unusual economic distress, \$59,336.69 has been spent or more than one-third of the entire appropriation. Instead of diminishing, Rochester's poor problem, in so far as the city is concerned, is increasing. The cost to the city cannot be estimated in dollars and cents, for paupers are being manufactured in an ever increasing number. This means increased cost in every branch of city service; increased cost of health service, police service, hospital service, economic loss to the community in the loss of self-supporting citizens and workers, and consequent added burden upon every industry and every individual in the city.

In the city of Rochester in 1914, according to the report of the department of charities, \$62,089.55 was spent for out-door relief alone, as follows:

Groceries and provisions.....	\$36,622.87
Meat	8,364.04
Bread	1,832.40
Coal	8,568.06
Shoes and clothing.....	4,299.74
Board for children in their homes.....	1,261.40
Drugs and medical supplies.....	47.30
Railroad transportation	238.24
Traveling expenses	232.00
Burials	623.50
Total.....	\$62,089.55

The following table has been prepared by the secretary of the United Charities of Rochester to show the per capita cost for municipal out-door relief in various cities, including Rochester, in 1914:

OUT-DOOR RELIEF STATISTICS.

1914

Name of City	Estimated Population July 1, 1914	Total Amount Expended	Per Capita Cost
New York City	5,333,537	Nothing	.000
Philadelphia, Pa.	1,657,810	Nothing	.000
Brooklyn, N. Y.	1,833,696	Nothing	.000
St. Louis, Mo.	734,667	Nothing	.000
Baltimore, Md.	579,590	A trifle by county	.000
Louisville, Ky.	235,114	Nothing	.000
Minneapolis, Minn.	343,446	\$6,015.74	.017
Indianapolis, Ind.	259,413	4,952.83	.019
Cincinnati, Ohio.	402,175	9,413.59	.023
Jersey City, N. J.	293,921	8,500.00	.028
Pittsburgh, Pa.	564,878	17,156.68	.030
Cleveland, O.	639,431	22,726.27	.035
Hartford, Conn.	107,038	3,958.41	.036
Columbus, O.	204,567	7,780.13	.038
Kansas City, Mo.	281,911	14,201.85	.050
Providence, R. I.	245,090	13,144.70	.053
Newark, N. J.	389,106	23,385.40	.06
Milwaukee, Wis.	417,034	37,084.31	.080
Albany, N. Y.	104,000	9,071.41	.087
Worcester, Mass.	157,732	12,766.43	.080
Toledo, O.	184,126	17,457.63	.094
Springfield, Mass.	100,375	10,319.31	.102
Buffalo, N. Y.	454,112	47,631.81	.104
Detroit, Mich.	537,560	69,964.41	.13
Richmond, Va.	134,917	18,675.42	.138
Chicago, Ills.	2,393,325	335,088.19	.140

Name of City	Estimated Population July 1, 1914	Total Amount Expended	Per Capita Cost
St. Paul, Minn.	236,766	34,667.24	.146
Boston, Mass.	733,802	111,282.54	.151
Omaha, Neb.	133,274	22,000.00	.165
Syracuse, N. Y.	149,353	30,193.87	.202
Grand Rapids, Mich.	123,227	26,424.61	.214
Scranton, Pa.	141,351	32,450.63	.222
Fall River, Mass..	125,443	30,661.28	.244
Rochester, N. Y.....	241,518	62,089.55	*.257

*Does not include amount expended by county superintendent of poor for out-door relief of "county" cases in the City of Rochester. This amounted to \$22,428.46 in the fiscal year ended September 30, 1914, inclusive of overhead cost.

It is Rochester's boast that it is a city of homes; that its factories are among the largest and best in the country, and that its workmen are among the highest paid in the world; that it has no slums; that the health and welfare of its citizens are conserved in every possible way, and yet evidence of these figures demonstrates either that economic and social conditions are worse in Rochester than in other cities, or that the administrative control of out-door relief is less efficiently provided for. Close observation of the work of the department of charities in a period covering two weeks, demonstrates clearly that the high cost of out-door relief is due to administrative inefficiency rather than to bad economic and social conditions.

Cost of City Cases Supported at the Almshouse and County Hospital.

In addition to the amount spent by the city charities department in 1914, \$133,270.50, the cost of support of city cases, in the county almshouse and county hospital, was assessed upon the city. This cost to the city was:

County almshouse charges	\$28,308.40
County hospital charges	37,683.52
Total.....	\$65,991.92

Thus the people of Rochester were required to pay, in addition to the sum already provided for the use of the city department of charities, \$65,991.92 for the support of city cases in county institutions. The responsibility for this added cost rests with the city department of charities, because under the poor law the poor officer may send persons to the county almshouse and county hospital. This is in fact a cause of complaint by the county superintendent of the poor, who states that, although he is charged with the responsibility of conducting the almshouse and county hospital properly and eco-

nomically, he has no control of the admission of hundred of patients who are sent there by the city authorities.

Relief of Veterans.

In addition to the appropriation allowed the department of charities for the relief of the poor during the current year, the Grand Army Post was allowed \$22,000 for the relief of "all poor or indigent sailors or marines who have served in the military or naval service of the United States and their families." The state law requires that such persons shall be aided in their homes as far as practicable. The control of the expenditure of money for their relief, however, is not vested in the relief bureau of the G. A. R., but in the authority which provides the money. The decision of the court in this matter (Court of Appeals, January, 1893, *People ex rel Crammond vs. The Common Council*, 136 N. Y. 489) is that "The power to determine who are the indigent persons and families and the necessity for their relief, the measure thereof, the place where and the circumstances under which the same shall be administered, is not vested exclusively in a relief committee of a Grand Army Post, but the proper officers of a town, city or county having jurisdiction to raise and appropriate money for the relief of the poor have jurisdiction and control over the same."

When a veteran applies for relief the record of investigation is made in the same manner as for other purposes. If his application is approved by the overseer, he is referred to the G. A. R. relief bureau which furnishes the aid needed from the funds provided by the city. This ends the matter as far as the department of charities is concerned. While it is perhaps proper that veterans should be provided for through a relief bureau of the G. A. R., yet it is equally proper that the city authorities should exercise a definite control of the matter. The department should keep constantly in touch with the families of veterans in order that their needs may be provided for in the manner best suited to them and to the proper administration of the city's funds. In fact, the same procedure should be followed in the case of veterans as is recommended for other poor, the only difference being that the actual disbursement of relief should be in the hands of the G. A. R. relief bureau. The department of charities should determine how much relief, what kind of relief, where relief shall be provided, and the duration of relief, and the histories of all such cases should be as completely detailed as the histories of other cases. There is no wish to make it difficult for the veteran to secure proper aid, but the municipal authorities should not be left out of the matter as soon as the preliminary investigation has been made.

Cost of Outdoor Relief by the Charities**Department in First Three Months of 1915.**

The first part of the present year showed a remarkable increase in the number of applications for aid. From January 1 to April 29, 1915, (this survey was made in April) 1,767 new cases had been entered in the issue book as recipients of relief. (A new case is one which has not received aid from the department within one year from date of application). The cost of outdoor relief during the first three months of the present year has been great. Admittedly, the past winter was a period of economic distress, but the summary which follows indicates either that the economic distress was particularly heavy in Rochester or that funds for poor relief have been extravagantly used.

	January	February	March	Total
Groceries and provisions	\$7,750.43	\$8,822.26	\$10,101.70	\$26,684.39
Coal	2,525.00	2,673.50	2,809.50	8,009.00
Shoes	845.50	811.75	939.25	2,596.50
Burials	44.50	50.00	89.00	183.50
Board	167.80	163.60	264.80	596.20
Drugs and medical supplies...	3.50	12.00	4.25	19.75
Railroad transportation	..	..	1.02	1.02
Clothing	77.25	46.90	27.10	151.25
Total.....	\$11,423.98	\$12,581.01	\$14,236.62	\$38,240.61
Average Monthly Cost, \$12,746.87.				

The Municipal Store.

Acting upon the theory, which is a perfectly sound one, that the department is able to purchase and dispense staple articles at wholesale prices by buying provisions in large lots, a store has been equipped in the office of the department, where applicants for relief may be supplied with groceries. Two clerks are employed regularly. On three days of each week—Monday, Wednesday and Friday—the persons who have been approved for aid appear at the department and obtain grocery checks which they turn over to the clerk who fills their orders up to the amount of the checks. On these days the office is thronged with men, women and children carrying market baskets, suitcases and bags. A visit was made on a Monday morning in order to observe the procedure.

As each individual comes to the desk, the investigator asks a question or two in a perfunctory way such as "Is your husband still sick?", "Are you still out of work?", or some other question intended to discover if the reason for the applicant's need still exists. The answers to such questions are, of course, almost invariably in the affirmative. A brass check stamped \$1.50 or \$2.00 is then tossed to the

individual and he goes to the store clerk for his groceries. The clerk sets out on the counter the groceries desired to the amount of \$1.50 or \$2.00. The individual packs them away in the bag or basket, and the proceeding is complete.

At the close of the day the clerk counts the checks which he has received and totals the amount of the checks. These figures he enters in a record book. An examination of this record book shows that about three hundred persons came each issuing day to the department for the three months—January, February and March. The record is as follows:

January	3,422	\$ 5,834.00
February	3,995	6,820.50
March	4,672	8,010.50
Total	12,089	\$20,765.00

Influence of Municipal Store Demoralizing.

Although there is no doubt that a certain economy is effected through the municipal store, yet its influence upon the community is wholly bad. If people are really in need there is no reason why their need should be paraded, for every passer-by says to himself, as soon as he sees a person coming out of the department office with a basket. "There is a pauper." It is, of course, no disgrace to be poor, but it is disgraceful on the part of the city to make exhibition of its poor. The very atmosphere of the department on issuing days is demoralizing, not only to the customers, but also to the little children who so frequently accompany them. Every part of the proceeding from the application to the receipt of aid is calculated to stamp the individual as a pauper, and the ease with which he becomes a pauper hastens a moral degeneration which ultimately results in a wreck of his self-respect. His children are, of course, known to be the children of a pauper and their association with other children may quite often be made unpleasant.

The deserving poor—and if a department of charities is efficient in conducting its investigations, this should constitute the largest group—should be given aid suited to their needs, but they should not be required to exhibit their poverty in order to secure that aid. Economy is not the principal question involved, but the rehabilitation of the family; and this cannot be done by the municipal store method. It would be far better if the provisions could be delivered to the individual by the private grocer just as any other person's groceries are delivered, so that no one but the department, the grocer, and the individual would know about the matter.

Groceries Purchased from Outside Dealers.

In certain cases, the recipient of aid is allowed to secure his provisions from private dealers. The overseer of the poor states that this is done when the individual is unable, because of sickness or otherwise, to come to the municipal store. This procedure, however, has resulted in considerable abuse. An analysis of some of the bills returned by outside dealers shows that the purchasers are not only buying the luxuries in provisions but also are paying extravagant prices. The following list of articles was taken from the bills of several of the private grocers for provisions furnished to a poor person on orders from the department:

- Cookies,
- Jello,
- Tobacco,
- Raisins,
- Sweet potatoes,
- Basket of apples,
- Bottled catsup,
- Sardines,
- Jam,
- Canned corn beef,
- Cocoa,
- Jelly,
- Macaroons,
- Canned soup,
- Canned peaches,
- Canned pineapples,
- Tuna fish,
- Honey,
- Grapenuts.

One of the chief causes of indigence is improvidence. This has been proven by the workers of the United Charities, who in several instances have shown that family incomes thought to be insufficient because carelessly spent, were actually sufficient to maintain the families comfortably when properly spent. Certainly, any system which permits indigent persons dependent upon city aid for subsistence, to buy canned peaches, pineapples, sardines, macaroons and such articles, is a bad one. Extravagance is encouraged and poverty made worse.

Prices at the Municipal Store.

The department of charities buys commodities very reasonably. There can be no question that so far as the cost of furnishing pro-

visions is concerned, the cost to the department is less than if provisions were furnished by private dealers upon the department's order. This is shown by a comparison of the prices paid by the department with prices for articles of equal quality on the outside:

	Cost at <i>Municipal Store.</i>	Cost at <i>Private Store.</i>
Canned salmon, can	9 cents	15 cents
Condensed milk, can.....	9 "	10 or 11 cents
Tea, pound	22 "	30 cents
Coffee, pound	20 "	32 cents
Corn, can	6 "	12 cents
Tomatoes, 2 lb. can	7 "	12 "
Karo syrup, can	8 "	12 "
Salt pork, pound	15 "	22 "
Corned beef, pound	10 "	16 to 18 cents
Cheese	17 "	20 to 22 "

It is hardly worth while, however, to comment upon the municipal store as an economy, for if there are persons now receiving provisions from the city who are not entitled to them or who could be better provided for in other ways any sum for their aid is an extravagance. The whole matter is so founded on thorough investigation and "follow-up" of each case that until this is done it is not possible to offer any definite recommendations for the conduct of the municipal store.

Stores Records Inadequate.

The only current stores record kept is that previously described, a mere totalling by months of the number of customers and the amount of the provision checks issued. There is no record of the amount and kind of goods received, the amount disbursed, and the amount on hand. The storekeeper states that he watches his stock, and when he sees it getting low he orders more, and that he takes inventory once a year. This is by no means a sufficient check upon the issuance of stores, for under this system provisions could be taken from the store without the knowledge of the commissioner, who is responsible for them.

When a person comes to the storekeeper and wants groceries to the amount of the check allowed him, the storekeeper calculates as nearly as possible the amount and kind of provisions which will come to \$1.50 or \$2.00 as the case may be. The cost price of these provisions is the basis on which this determination is made. It is difficult to understand how the storekeeper can calculate the exact amount of provisions which will bring the total cost up to \$1.50 or \$2.00. So far as possible all provisions are in weighed packages. That is, coffee, tea, sugar, crackers, rice and such articles are put up in packages for

convenient handling. Other articles are in cans or boxes, such as condensed milk, peas, tomatoes, corn, quaker oats, macaroni, etc. The wholesale prices of these articles by weight or quantity may perhaps be seven cents, nine cents, eleven cents, seventeen cents, twenty-two cents, etc., and yet the storekeeper sets out a lot of provisions, estimated by him, for instance, to be \$2.00 worth and enters in his record book that \$2.00 worth of stores has been disbursed. No doubt stores to the approximate amount of \$2.00 have been disbursed. It is more than probable that the exact amount of stores disbursed is a few cents over or under the amount of the check, yet so far as the department's records are concerned these few cents are ignored. This is a slipshod way of keeping account of stores, for it depends entirely on the mathematical accuracy and the honesty of the clerk, and it is well nigh impossible for him to provide in each instance a quantity of groceries which will come exactly to the amount called for by the check.

Orders for Medical Aid.

The twelve physicians of the health bureau are assigned to districts in which they render such relief to the poor as may be required. The order for medical services is sent to the health bureau and the health officer assigns a physician to the case. No reports of these visits are made directly to the commissioner of charities. The physicians report to the health bureau on a special form and orally to the commissioner of charities if requested, usually by telephone. The post card reports, which are sent in to the health bureau, are returned by the health officer to the commissioner of charities. These reports, however, are too meagre to be of any great value to the commissioner of charities for they state only the name of the individual, his residence, and a brief memorandum of the physician as to the conditions found. There should be attached to each history a complete record of the illness of any person to whom medical aid is given, and this history should show not only the cause of illness but also the number of visits made by the physician, the treatment given, and the result obtained. When the patient is discharged the department of charities should be notified immediately, in order that whatever change in procedure is necessary may be provided for.

A record is kept by the department of charities of visits made by physicians for the purpose of making examinations to determine insanity. The book used for this purpose shows only the name of the patient, the doctor's name, the date of visit, and whether committed or not. There should be a complete report of each case. If the patient

is committed as an insane person, copies of the findings of the physicians should be attached to the history. If no commitment is made, there should be complete details of the physicians' examination. All these facts are essential to a proper determination of the patient's needs.

Orders for Other Aid.

Orders are given upon local dealers for coal, meat, milk, shoes, clothing, burial, etc., as the case may require. Coal is purchased upon contract, and the order is issued upon the contractor. The amount of coal delivered depends somewhat upon the circumstances of the applicant, but it is usually delivered in quarter or half-ton lots as needed. Orders for meat, milk, shoes and clothing are issued upon dealers located conveniently for the recipients of the orders. The orders are returned by the dealer with their bills. No fault is to be found with this procedure, but the whole matter is so affected by the method of investigation, which is supposed to determine the need for material relief, that so long as the present inefficient procedure is continued any recommendations regarding the issuing of orders are futile.

Hospital and Institutional Care.

Orders for hospital care in city hospitals are issued in the same way as other orders. The hospitals, however, render only monthly statements upon a special form, which calls for information relative to the name of the patient, age, when admitted, the number of days or weeks cared for in the hospital, the rate of charge, and the amount due. Charges for hospital service have been fixed as follows:

\$7.00 for the first eight weeks.

\$5.00 a week for the next eight weeks.

\$2.50 a week for the next ten weeks.

\$1.75 a week for the remaining time.

\$5.00 for each operation (X-ray considered as operation).

When this bill is rendered by the hospital, a copy is made by the deputy commissioner. Before sending the original to the comptroller, the names of the persons receiving hospital aid are checked over to see if proper investigation was made in each case.

In 1914 the bills of the four city hospitals were as follows:

St. Mary's	\$ 5,183.80
Rochester Homeopathic	2,093.21
Rochester General	5,177.38
Hahnemann	3,309.47

Total\$15,763.86

No entry is made in the history record of the hospital treatment of the individual receiving such aid. The hospital, of course, has its record, but if the commissioner of charities wishes to know what treatment was given, what operations were performed or what results were obtained, he must go to the hospital for it. A hospital record book is kept, which contains for each person sent to the hospital, the following information:

Serial number.

Page (page of record book where history is found).

Foreign or American.

Name of person.

Residence and age.

When admitted.

When discharged.

Transferred.

Died.

The investigator who is in charge of this record states that the chief purpose of this book is to keep a record of the patients admitted to hospitals in such a way that it will be possible to total the number readily for the annual report and to check the hospital bills when they are presented. This statement illustrates the lack of control exercised by the department. The important thing, so far as the department is concerned, should not be to discover whether the hospital bills are accurate, or to locate the individual somewhere in the statistics of the department, but to know definitely how the patient is cared for in the institution and what the institution is doing to make him well.

A similar record is kept of inmates in other institutions, who are paid for at rates varying from \$2.00 to \$5.00 a week. In county institutions the charge for patients is based upon actual per capita cost for their care. In 1914 relief in institutions not including city hospitals was distributed as follows:

Institution.	No. of Persons Cared for, 1914.	Cost, 1914.
N. Y. State Hospital for Incipient Pulmonary Tuberculosis	70	\$ 8,096.42
St. Joseph's Orphan Asylum.....	43	4,553.56
St. Patrick's Orphan Asylum.....	39	3,073.92
St. Mary's Orphan Asylum.....	56	5,033.32
Rochester Orphan Asylum.....	43	3,255.76
Jewish Orphan Asylum.....	15	1,201.51
Church Home	15	1,407.43
Jewish Sheltering Home.....	5	67.14
Brunswick Home (Amityville, N. Y.).....	6	1,493.88
St. Anne's Home for the Aged.....	47	4,945.68
Total	339	\$33,128.62

Without detailed information as to the kind of care and treatment offered in each of these institutions, it is useless to attempt to consider the validity of the charge in each case. Something may be said here regarding the importance of thorough investigation of each case, and a determination of whether institutional care is best. In the above list all except the first and last institutions are orphan asylums, and out of the 339 patients cared for in these institutions, 222 were listed as orphans. Of course, the easiest way to provide for children is to send them to orphan asylums, but it is the worst way unless no other means can be provided for their care. Institutional care of children, even though the institutions may be models in every respect, is not the most favorable for the production of healthy self-reliant citizens. There are no records available to show what institutional care is doing for these children, and so long as the city of Rochester pays approximately \$25,000 a year for the care of children in orphan asylums, the department of charities should have more information about how this money is spent. Here again, thorough investigation and record of each individual case is essential, not primarily to protect the city against unnecessary expense, but to insure that every effort has been made to provide proper care outside of institutions and to see that if institutional care is necessary, the institution provides proper care. New York State is filled with institutions of every kind, and the constant effort of well-intentioned but short-sighted charity workers all over the state is to get people into institutions. The individual who is sheltered by institutional walls, beyond all responsibility for his own career or that of others dependent upon him, soon becomes a mere excrescence on society. The more people are kept out of institutions the better for society, and to this end scientific study of each individual case is needed by the city department charged with their support.

Ambulance Service.

Each of the four city hospitals—St. Mary's, Hahnemann, Rochester Homeopathic and Rochester General—receives \$2,000 per year for ambulance service. This money is paid out of the appropriation for the department of charities. The commissioner of charities, however, does not have any control of this expenditure. No reports are made to him by the hospitals of the ambulance service rendered to the city. A record is kept by the department of charities of all calls for the ambulance which come through the department of charities. In 1914 there were 310 such calls distributed as follows:

St. Mary's	55
Rochester General	118
Rochester Homeopathic	86
Hahnemann	51
	310

In addition many times this number of calls are sent in through the police. In order to determine whether \$8,000 a year is a fair charge for ambulance service, it would be necessary to know exactly what ambulance service costs, and to have records of the efficiency of service. It is evident that so far as the charities department is concerned, the work is by no means equally divided, one hospital doing as much work as two of the others. Complete reports should be sent in to the department of charities by the various hospital authorities covering all ambulance calls made for the city during the month. Payment should then be made in proportion to the amount of service rendered and preferably at a fixed rate for each call, based upon the average cost per call. It is certainly not good business to pay a lump sum of \$8,000 for ambulance service without giving city officials any control of its expenditure, nor is it good business for the city to pay for this service without knowing whether the amount of service rendered by each hospital is worth the \$2,000 paid.

Cooperation With the Children's Aid Society.

The Children's Aid Society cooperates with the department in providing care of children who cannot get proper care in their homes owing to the failure of their parents to provide for them. The Children's Aid Society endeavors to find homes for them where they may be boarded and kept under the supervision of the society and also recommends placing out the children in institutions when that may be considered necessary. A record is kept by the department of charities of such cases in a record book which gives the following facts about each case:

- Page No. (number of page in record book where history of family is found).
- Number of the case.
- Name.
- Age.
- Admitted.
- Committed.
- Discharged.
- Readmitted.

Father's name.
Mother's name.
Street address.
Date of birth.

Beyond this brief tabulation of the facts, there is no further information available in the department of charities. In addition to the reports of the institutions regarding the care of children in their charge, there should be frequent reports regarding the children who are boarded in homes. The Children's Aid Society should submit regularly reports as to the care and welfare of such children in order that the department may know whether the money which is spent for this purpose is being properly spent. In 1914, \$1,261.40 was spent in providing for the care of children in their homes. This is by all means the most desirable way of taking care of children, but better information regarding such care is essential.

Employment Instead of Alms.

Aside from a rather unsatisfactory attempt to employ able-bodied males in the street cleaning department, little has been done by the department of charities to secure employment for the poor. A visit to the municipal store on an issuing day impresses one with the belief that much more can be done by the department, if a thoroughly systematic effort is made to find work for these able-bodied paupers. No matter what the ultimate determination of the city shall be as to the organization, municipal or otherwise, which shall administer poor relief, there should be some agency which may serve as an employment bureau to keep in touch with the labor needs of the community and supply labor to meet their needs. Admittedly, the kind of labor which might be furnished to private organizations in this way, is in the majority of instances inefficient. The very procedure which has been in vogue for so many years could not fail to produce incompetents, but the situation will grow worse instead of better unless steps are taken now to remedy the existing evils.

The municipal farm has proven to be a solution of many of the difficulties of unemployment in some American cities. The use of able-bodied indigents for farm labor would provide labor for the individuals themselves and also many articles for feeding and clothing those not able to work. In New York City a farm colony is being conducted under the department of charities. The average registration at this colony is about 1,200 persons. In 1914 the total cost of maintenance of this institution was \$168,000 for a total of 392,449 inmate days. The value of farm products raised was \$14,011.10. The

total cost of maintenance of this institution was therefore reduced by \$14,011.10 and the cost per inmate day was only thirty-nine cents. If the able-bodied indigents in Rochester could be supported at a cost of thirty-nine cents a day each and made to be of some service in providing for the needs of others not able-bodied, the cost of poor relief could be materially decreased. The man who works and sees the product of his labor is more likely to be or become a useful member of society, than the man who is supported in idleness and who, because idle, constantly deteriorates mentally, morally and physically.

Non-Support Cases.

The determination of what shall be paid by the husband in non-support cases is made by the court which orders the husband to pay a certain sum weekly to the department of charities. This sum the department of charities turns over to the proper person weekly. A ledger is kept in which a page is given to each non-support case. Here are entered amounts and the dates of payment to and by the department. Each person ordered by the court to pay a certain sum for the support of his family is put under bond. If he defaults payment, the bondsmen are required to pay into the city treasury the amount of the bond. The department of charities, however, must continue to support the family as this money turned over by the bondsmen is not available for the support of the needy family.

In such cases, the appropriation for the department of charities should be credited with the amount paid by the bondsmen in order that the cost of maintenance of the families may not be charged against an already heavily encumbered appropriation.

Reimbursement for Aid Given by the Department of Charities.

The deputy commissioner states that occasionally persons aided by the city reimburse the department for aid given. The amount thus received is small, amounting to only \$763.77 in 1914. The deputy commissioner prepares a monthly report of such receipts, which he submits with the money received to the comptroller. In no other way than by a competent investigation of such cases can the liability of parents or children for support of the members of their families be established. The law is very clear on the point of liability for support and in all cases an effort should be made not only to establish liability but also to enforce it. The law states that if of sufficient ability, the father, mother, and children of a poor person who is insane, blind, old, lame, impotent, or decrepit, are liable for support in a manner to be approved by the commissioner of charities. The responsibility, therefore, of determining what sufficient ability shall be, rests with the department

of charities, and for the determination of sufficient ability in such a manner as to satisfy the law, complete and accurate records are necessary.

Confidential Exchange.

The United Charities of Rochester furnishes the department of charities with blank forms which, when filled out with the name and address of the applicant for relief, are returned to the United Charities. From its very extensive and complete index of the poor of the city, the United Charities obtains all the information available regarding the applicant, and enters such information upon the blank which is then returned to the charities department. The United Charities thus renders a most important service to the city authorities but the service which it should and could render is hampered by the lack of efficiency in organization and service of the department. What is needed is not a mere formal cooperation but the incorporation of the United Charities with county and municipal organizations into one single-purposed organization for intelligent and efficient community social service.

BOARD OF EXAMINERS OF MIDWIVES.

Board of Examiners Established by Special Act.

The board of examiners of midwives in Rochester was created by a special act of the legislature in 1895. The board consists of three members, two of whom are practicing physicians appointed by the mayor, the third member being the health officer of the city. The board is authorized to make and enforce such rules and regulations as may be necessary in control of the practice of midwifery, and they are empowered to examine and license such candidates for the practice of midwifery as they may consider otherwise eligible. For this service the act authorizes compensation for each member of the board, except the health officer, at the rate of \$10 a day for each day necessarily given to the performance of their duties. The law specifies also that the examiners shall meet on the first Tuesday of October and April of each year and on such other days as they may appoint.

Excellent Policy Adopted by the Board.

The original board of examiners, consisting of two practicing physicians and the health officer, still remains unchanged as to personnel, and there can be no question that it is due to the firm and far-sighted policy adopted by this board at its first meeting that Rochester occupies her present enviable position among cities with respect to the regulation of the practice of midwifery. There were at the time of the creation of the board about thirty midwives in the city entirely unsupervised and uncontrolled. In order that these midwives might be given a fair chance to demonstrate their competence to practice midwifery, the board decided at its second meeting on August 18, 1895, to give a course of lectures to midwives on the subject of obstetrical practice. This was probably the first well organized effort on the part of municipal health authorities in this country to conduct a school for midwives. Six lectures in all were given in English and German, and at the completion of the course a review was held for the twenty-eight midwives who attended. Following this the midwives were given a thorough examination in midwifery practice and twenty who demonstrated their competence in this examination were passed and licensed; two were rejected, and six were held for further examination.

Midwives Required to Speak English.

At the first examination the candidates were examined in their own languages through interpreters. Not only was this a difficult pro-

cedure, but it was found later on that, unless the midwife was known to speak English, it was impossible to get the proper cooperation from her in her practice. If she violated the law she would take refuge in her professed inability to understand English, and it was found almost impossible in certain instances to make a thorough investigation of the facts of the alleged violation on this account. In 1906 the board unanimously adopted a resolution to the effect that thereafter candidates would be examined in English only.

Appraisal of Work of Examining Board of Midwives.

Examination of the minutes of the board shows that persistent and strenuous effort has been made to punish violators of the law and to eliminate from the practice of midwifery the unclean and inefficient midwives who are a menace to the entire community. As a result there are but nine midwives now registered as practicing in the city, all of whom are known and vouched for by the examining board. The health officer states that there are in all probability a number of unlicensed midwives who do not sign birth certificates themselves, but get physicians to do so for them. It is impossible to detect such violation unless the action of the unofficial midwife results in the sickness or death of the patient or child, and complaint is made against the midwife on this account. In such cases thorough investigation is made by the board of examiners, which sits as a court of inquiry. The board is given power under the act creating it to recommend to the mayor of the city the revoking of licenses of midwives adjudged guilty of violation of the law, and the mayor is given power to revoke such licenses. In addition to this penalty, any person who violates the regulations of the board is guilty of a misdemeanor and on conviction may be fined not less than \$50 nor more than \$100.

It is certain that the present law relative to the appointment of the members of the board and the method of operation of this board has been most effective for good, and the long tenure of office of the members of the board has brought permanence of policy and ideals. Under no circumstances should the sections of the law relative to appointment, procedure and tenure of office of members of the board be changed in any contemplated charter revision. It is suggested, however, that this board be included as a staff agency within the organization of the proposed department of health and welfare.

DEPARTMENT OF PUBLIC WORKS.

Organization of the Department.

The department of public works of the city of Rochester is created by Article IX of the city charter. The head of the department is the commissioner of public works, who is charged with the maintenance and operation of the city's highway, sewer, and water systems, the public market, and various other public works. The commissioner is appointed by the mayor and holds office during his pleasure.

The department of public works is composed of the following organization units:

- Street and sewer bureau.
- Water works bureau.
- City garage.
- Public market.
- Bureau of weights and measures.

This report discusses in turn each of the above named sub-organizations and also points the way to a much needed reorganization of the entire department.

STREET AND SEWER BUREAU.

(Exclusive of Street Cleaning; Snow Removal; and Refuse Collection, Disposal and Reclamation).

A study of the organization of the department of public works leads to the conclusion that the street and sewer bureau is a bureau only in name. In order to classify expenditures for budget appropriations various activities in connection with the streets and sewers of the city have been grouped into a loose organization called the street and sewer bureau, but this bureau has no administrative head. The chart of the present organization of the department of public works shows the street and sewer bureau to consist of practically nothing but a central office, bearing a more or less close relation to several activities, such as street maintenance, the rubbish plant, etc.

This section of the report deals only with the activities of this bureau incident to the maintenance and repair of streets and the disposal of sewage. Street cleaning; snow removal; and the collection, disposal, and reclamation of refuse have been included in a separate section.

Lack of Centralized Control.

The deputy commissioner of public works has general supervision over most of the outside work of the bureau, while the chief clerk who reports directly to the commissioner of public works has charge of all of the clerical and part of the inspectional work. There is no clear separation, however, since the deputy commissioner issues orders directly to the chief clerk.

If the street and sewer bureau were to be considered as containing within itself all of the divisions which are on the street and sewer payroll, the looseness of the organization would be still more evident. The clerk of the incinerator or rubbish plant works under the supervision of the chief clerk of the street and sewer bureau, and all his reports are sent to the chief clerk, but the superintendent of the plant reports directly to the commissioner of public works and is under the commissioner's personal supervision. Furthermore, the divisions of asphalt repairs, bridge maintenance, and street signs, and the sewage pumping station have their records kept by the clerical force of the street and sewer bureau and yet are directly in charge of the commissioner of the department.

A reorganization of this bureau, resulting in the centralization of the various activities, should be made. Such a reorganization would relieve the commissioner from many unnecessary details and enable him to give his attention to the larger problems of administration and policy. A general plan for a reorganization of the entire department of public works is submitted in another section of this report. This plan abolishes the street and sewer bureau and provides for a bureau of highways and bridges, a bureau of sewers, and a bureau of sanitation. The criticisms which follow are based upon a survey of the present organization and are followed by suggestions, many of which may serve as intermediate steps between the present organization and the proposed ultimate organization.

Job Cost Accounting.

Job costs and unit costs are invaluable to the administrator and furnish information regarding the efficiency of the various employees such as can be obtained in no other way. At present only labor costs are kept by the street and sewer bureau, and these are not unit costs.

In connection with the suggested reorganization of the department of public works, provision is made for a central division of cost accounts and statistics. From the data to be furnished by the various bureaus, this division would compile all job and unit costs.

The present daily time sheets used in the street and sewer bureau are admirable in many ways, and need only to be modified slightly to include the reporting of supplies and materials used. It is suggested that the necessary changes in these forms be made and that separate job costs be kept.

In connection with the proposed system of job costs, it should be possible to furnish sufficient data to facilitate the preparation of maintenance costs. No figures are available at present to show the costs of street maintenance.

Central Permit Division.

Corporation permits are issued by the permit clerk in the general office of the street and sewer bureau. All other permits issued by the bureau are in charge of the application clerk. As a matter of fact, however, any of the clerks in the general office of the bureau may and do issue permits of all kinds as the permit clerk is often in the field making personal inspections preliminary to the issuing of permits. All inspection service required in connection with the issuance of permits should be made by the inspection division described in the section of this report dealing with reorganization. No outside inspection service should be required of the office force. With such conditions, all permits issued by the bureau could be handled by one clerk with possibly a part time assistant. This centralization of the permit service could be put into effect at once and form an intermediate step between the present organization and the proposed reorganization of the department.

Permit Fees.

At present no permit fees are collected for any permits issued by the bureau, although there are certain conditions in the way of bond requirements which must be fulfilled. All the expense incurred for issuing permits is at present paid out of the general fund. This expense is properly chargeable to the person taking out the permit and a fee sufficiently large to pay for the clerical and miscellaneous expenses involved should be charged in all cases.

Stores.

Supplies for street and sewer repairs are purchased in small quantities as they are required throughout the year. No attempt has been made to purchase such staple supplies as cement, paving brick, stone block, sand and gravel, etc., on contract and in large quantities. If it be found inadvisable to have these materials delivered in large

quantities, contracts could be entered into providing for current deliveries.

Such small quantities of supplies as are bought are stored at the Byron Street yard. Whenever any supplies are required for making repairs, the materials have to be hauled from the Byron Street yard regardless of the location of the work to be done. In some cases this results in very long hauls, a corresponding loss of time in making the repairs, and an increased expense. Distributing points located near the centers of the four quarters of the city and used for storing small quantities of materials would reduce the cost of hauling and facilitate the work. It is possible that such storage system could be used also by some of the other city departments.

Centralization of Inspection Service.

Under the present organization there are five different groups of inspectors reporting to five different heads, as follows:

Corporation inspectors reporting to the permit clerk.

Trench inspectors reporting to the application clerk.

Sidewalk inspectors reporting to an investigator.

Inspectors of garbage complaints reporting to the secretary of the commissioner.

Street cleaning inspectors reporting to a chief inspector.

This lack of centralization in inspection service necessarily results in duplication of work. An inspector from each of the five groups often covers the same territory in a single section of the city during the same day. These men report on different forms and only in regard to their own work, yet there is no fundamental difference in the work reported upon which would prevent one inspector from reporting on all of the work. Furthermore, at the present time no summarization of these reports is made and referred to the administrative head of the department.

A centralization of all of the inspection service of the bureau under one head would result in a better supervision over inspectors, an increase in efficiency of service, a lower cost of inspection service, and make possible standardization of forms and records. It is recommended, therefore, that a central inspection division be established to combine the several groups of inspectors under one chief inspector.

Use of Police.

The point is not made, however, that all of the inspectors now engaged in this work are needed, for not only may it be fairly assumed that the force could be materially reduced through the proposed centralization, but much of the inspection work now done by special

inspectors could, without noticeable burden, be assumed by the patrolmen of the police department.

There is no need for specially trained technicians to report wear and tear conditions in the street pavements, or dangerous holes or cave-ins, or broken sidewalks, or dirty streets, or unclean sidewalks, or unremoved garbage, etc.—the kind of duties which have consumed a great part of the time of the present inspection force.

If the police officers were provided with a note book of loose-leaf inspection forms, a very large part of the information pertaining to the physical condition of various kind of public works could be reported by them directly to the department of public works.

Report System.

Independent of centralization of the inspection force, the records must be centralized if they are to be of any use to the executive officers. Work necessary to be done must be brought to the attention of the executive and likewise reports of work in progress and work completed, if the executives who are hired to make decisions relative thereto are actually to make them. Inspectors are really the eyes of the administrative officers, but unless some procedure has been established for correlating and summarizing the information collected by the inspectors it is practically valueless for the administrator.

What is needed in Rochester is the installation of a loose-leaf system of reporting on standard size blanks, designed to be easily handled in the field and easily assorted and filed in the office. These blanks should be used by the police officers, inspectors, and all public officials whose duties make it possible for them to assist in reporting on one or more of the various phases of the public works inspection.

The filing plant is of particular importance, for it is in this plant that the inspection records must be correlated with the cost data, which in turn should be reported upon blanks similar in size and design to the inspection forms. Properly designed and operated, such a filing plant would automatically recapitulate statements of work necessary to be done, work in progress, work done, and the costs thereof.

Sidewalk Inspection.

For the purpose of sidewalk inspection the city is divided into districts. Routes are assigned to fifteen sidewalk inspectors. These men report sidewalk conditions where repairs are necessary, present notices to property owners ordering repairs made, and later report as to whether the repairs have been made. In addition to the fifteen men mentioned above, who cover the entire city on designated routes,

there is an investigator or chief inspector who has general supervision over the work, and eight other inspectors. The latter men are used on miscellaneous work, such as the inspections of contract repair work on sidewalks, the inspection of board driveways, etc.

In the winter, the sidewalk inspectors are used as foremen of snow removal gangs. Routine sidewalk inspection is carried on only during those months in which there is no snow. It was stated that during such months each sidewalk route is covered not more than five times.

The annual salaries of the sidewalk inspectors amount to approximately \$17,000. Of this amount approximately \$10,000 can be properly charged to sidewalk inspection, of which it may be fairly said that 90 per cent. is a useless expenditure of city money.

There is certainly no peculiar technique involved in the reporting of sidewalk defects and, as has already been pointed out, the patrolmen of the police department could easily do this work without extra cost to the city. Moreover, sidewalk inspection is a kind of activity which really needs to be done only on occasion. Two efficient public works inspectors provided with automobile transportation could make all of the sidewalk inspections necessary in the city of Rochester in a week's time. Whether it would be advisable to have this inspection work all done in the spring or at different intervals during the spring and summer would depend on local conditions. There is no doubt, however, that the use of fifteen inspectors for the inspection of sidewalks is an absolute waste of money.

Corporation Inspectors.

With the exception of one inspector who acts as assistant to the permit clerk and exercises supervision over the corporation inspectors, none of these men is on the city payroll, although as many as eight or ten may be employed at one time. They are selected or approved by the commissioner of public works, but they are paid directly by the corporation whose work they are inspecting.

This state of affairs is fundamentally wrong. Work done in the streets of the city should be approved by city employees. If the inspectors are paid by the corporations whose work they are inspecting, it is only natural for them to consider themselves the employees of these corporations. To consider them city inspectors and to suppose that, as such, they protect the city's interests, is a fallacy.

It is true that the cost of such inspection service rightfully falls on the corporations doing the work and it should be borne by them, but this result can easily be obtained by the city rendering bills for

inspection service. All money paid by the corporations for such service should be paid to the city treasurer.

Mileage and Types of Street Pavements.

In 1913 Rochester had about 239 miles of paved streets. The following table, taken from the report of the engineering department for that year, shows the mileage of the various type of pavements:

Type of Pavement.	Miles.
Medina block stone	17.143
Medina common stone	13.487
Asphalt	103.324
Bitulithic	2.179
Block asphalt	1.037
Brick	66.177
Macadam	26.509
Gravel	7.291
Cobble stone	0.288
Creosote wood block	0.797
Total, paved streets.....	238.232
Total, unpaved streets.....	121.768
Total mileage of city streets.....	360.000

It will be noted that there is a predominance of asphalt and brick pavement. Fair success has been experienced with the former type of pavement, and most of the brick pavements are excellent.

The street maintenance work carried on by the street and sewer bureau includes the repair of all streets upon which the original guarantee of the contractor has expired. The principal part of this work consists in repairing asphalt streets. This work is done under contract.

Asphalt Repairs.*

Attention was called to the problem of asphalt repairs primarily because Rochester has a large mileage of this kind of pavement. Furthermore, although the city owns no municipal plant, very low unit prices have been obtained in the contracts made for the asphalt repair

*Note:

The conditions described in this section were made known to the Commissioner of Public Works by the New York Bureau of Municipal Research at the time of the survey. The commissioner has recently informed the Rochester Bureau of Municipal Research that he has taken steps to remedy these conditions. The inspector who was in charge of the work has been removed, the commissioner states, and one repair gang which was believed to be doing the poor work has been laid off.

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work. Careful field inspections were made in order that the kind of work being done could be ascertained.

Much of the work done appeared to be of very poor quality. Patches were irregularly rolled, the joining was not well done, and the surface often out of grade. For example, for some distance on Child Street several new patches were found to be so much out of grade that water would not drain off of them.

The laying out of the work also appeared to be somewhat irregular. To obtain the maximum efficiency from the asphalt paving the surface should be unbroken, and for this reason it is advisable when repairs are made to have them made promptly and sufficiently thorough to put the street in good condition.

On Campbell Street the asphalt surface had been in very bad condition, but even after the passing of the repair gang many of the large holes had not been repaired. It was stated by the residents along this street that repairs had been requested for a number of years yet adequate work had never been done. The point is not made that it might not have been advisable to have repaved instead of repaired Campbell Street, but it is advisable that the repair work be done promptly and that an unbroken surface be maintained.

These evidences of poor work raised a number of questions as to the kind of supervision exercised by the department over the asphalt repair work, and it was found that at the time this survey was in progress, although there were two contractors' gangs at work, only one inspector was assigned to the work. This inspector was working practically without supervision.

Further investigation developed the fact that the measurements for repairs were being made very loosely. Payments to the contractor are based on reports of areas repaired ostensibly measured accurately by the inspector assigned to the repair gangs. The contract itself contains a peculiar specification which provides that "superficial measurements" shall be taken of all patches. Although it is not clear just what is meant by the use of the word "superficial" in this connection, it was obvious at once after checking up the measurements made by the inspector that the latter were very inaccurate and invariably too large.

In order to obtain a more definite idea of just what these over-measurements and consequent over-payments to the contractor were, careful measurements were made independently by two engineers of the staff of the Bureau of Municipal Research. The following table shows the difference:

Comparison of Patch Measurements.

	City Inspector's report.	B. M. R. Measurements.	Excess of Inspector's Measurements.
1.....	585.75 sq. ft.	444.61 sq. ft.	141.14 sq. ft.
2.....	304.24 " "	200.65 " "	103.60 " "
3.....	1,037.50 " "	694.35 " "	343.15 " "
4.....	393.50 " "	363.10 " "	30.40 " "
5.....	303.50 " "	250.00 " "	53.50 " "
6.....	655.00 " "	484.50 " "	170.50 " "
Total.....	3,279.50 sq. ft. 364.4 sq. yds.	2,437.21 sq. ft. 270.8 sq. yds.	842.29 sq. ft. 93.6 sq. yds.

An over-measurement and certification amounting to 93.6 sq. yds. on a total area actually repaired of 270.8 sq. yds. means an over-certification of 32.4 per cent and an over-payment to the contractor of \$82.43 on the six sections measured.

It is not the purpose of this report to discuss the motives or reasons involved in reporting more work than was actually done. The fact stands out that the contractor was paid \$317.03 when he should only have received \$234.59. It is important to note that every section measured showed an over-measurement. Certain of these were high, such as the third section which showed an over-measurement of nearly 50 per cent; others were low, such as the fourth section which showed an over-measurement of less than 10 per cent.

Mere inaccuracy in measurements would mean that certain measurements would show greater and others would show less than the amount actually laid, but here a continuous series of over-measurements was found. Taking the average over-payment, i. e., 31 per cent., and applying it to the total amount of work to be done under the contract would mean that of the \$60,000 contract the contractor would be paid during the course of the year approximately \$16,000 for work which was never done.

Certain recommendations must obviously follow from the facts given in the preceding paragraphs:

- 1—There should be an inspector with every gang.
- 2—The inspectors' reports should be made on loose-leaf forms and filed in the central office every day.
- 3—All field measurements, no matter whether for maintenance or construction work, should be made the subject of audit or re-checking either by the public works engineers or representatives of the comptroller.
- 4—Measurements of work which are to be used as a basis for contractors' payments should not be "superficial" but accurate.



Water standing on newly made asphalt patches—Child Street.

A Municipal Asphalt Plant Recommended.

The evidences of poor repair work and excess payments to the contractor bring up the question of the advisability of a municipal asphalt plant. Similar conditions met in other cities have been overcome by the operation of such plants. Furthermore, the amount of asphalt repair work to be done will increase rapidly during the next few years, and if difficulty is experienced at present in obtaining good work by contract it will be increased as the extent of the work increases.

The present cost—eighty-eight cents per square yard—is low but the workmanship was found to be poor, and, anyway, other cities have found it possible to do similar work for from forty to seventy cents per square yard.

Another way in which a municipal plant may prove of benefit is in reducing the cost of original pavements. Toronto and Spokane, among other cities, found that by owning plants and putting in bids on new work in the same manner as private contractors the cost of asphalt construction was materially lowered.

It is, therefore, recommended that Rochester take immediate steps toward the purchase of an asphalt plant.

Flushing House Laterals.

House laterals are flushed by the street and sewer bureau at the request of householders. The work is done by two gangs of two men each, furnished with teams and the necessary equipment. A uniform charge is made for this service—\$2.50 for a residence lateral and \$3.50 for a business house lateral.

The flushing gangs report at the office in the City Hall each morning unless they are reached at the stables by the superintendent of sewers before eight o'clock. They are also required to report in person at the office each noon in order to receive any order which may have come in during the morning, and they are required to communicate with the office by telephone in the middle of the forenoon and afternoon. Driving to the office in the morning from the stables at Byron Street results in a daily waste of about thirty minutes time, and an even greater waste results from reporting at the office each noon.

The flushers should be given definite routes to cover each day and all orders should be transmitted to them by the superintendent of sewers, who has direct supervision over the work. The latter is furnished with an automobile and can therefore more easily keep in touch with both the office and the field work than can the flushers. More-

over, the flushers could be instructed to telephone the central office at a certain time each day for further instructions. Such a system should result in a great saving of time and a consequent reduction in the cost of this work.

Sewer Cleaning.

Ordinary sewer cleaning which does not require the use of the sewer cleaning machine is done by the same gangs that flush house laterals. Whenever a report of a stoppage is received at the office, one of these gangs is notified and ordered to do the work. While flushing house laterals, these gangs are not equipped with sewer cleaning apparatus and therefore they must drive back to the Byron Street yard whenever such work is required.

In order to do away with the necessity for returning to the Byron Street yard whenever a change of equipment is required, the four distribution points suggested for the storage system should be utilized for storing sewer cleaning equipment in the central parts of the four sections of the city.

Insufficient Street Signs.

One of the first impressions made on a stranger in a city is in regard to the frequency and legibility of street signs. In Rochester, the business section of the city is not at all well equipped with signs. In the heart of the city there are very few signs of any kind, and those which are discovered, after a more or less painstaking search, are hardly legible. It is apparent that no standard type of sign has been adopted.

It is understood that the commissioner of public works is attempting to decide upon a standard type of street sign. Steps should be taken at once to adopt some standard, and signs should be located at all street intersections throughout the city.

STREET CLEANING.

I. IN GENERAL.

This section of the survey report differs from the others owing to the fact that, soon after the beginning of this survey, the city council passed an ordinance abolishing the cleaning of streets by contract and directing that this work be done by city forces. Prior to that time approximately 75 per cent of the paved area of the city had been cleaned by contractors. Such a large increase in the work of the city

street cleaning forces entirely changed the conditions of the service and made it evident that any study of the Bureau at this time would cover organizations which would be wiped out or entirely changed in the near future. Therefore, criticism and suggestion based on such a study would be practically of little value, unless made with a view toward reorganization.

It was suggested to the local bureau that if the survey of this department was to be of any constructive value, it would be necessary to alter the plans so that instead of preparing a report based on existing conditions the New York Bureau could cooperate with the officials of the department of public works in their efforts to reorganize their forces along modern lines to meet the new conditions. This suggestion was approved by the local bureau and immediately taken up with the mayor and the commissioner of public works, both of whom welcomed the offered cooperation.

This section of the report will therefore include: (1) criticisms and suggestions based upon studies of those functions which are unchanged; (2) those changes and improvements which have been developed thus far in conferences with the department officials (These will be referred to herein as the first steps in reorganization), and (3) those suggestions which it is believed should be followed in the future.

The spirit of hearty interest and appreciation exhibited by the city officials in the efforts to assist in solving their problems was especially gratifying. Many of the suggestions developed have already been put into effect and it is expected that others will be before the end of the year.

Sanitary Service Organization.

Prior to April, 1915, the various sanitary functions of the department were grouped to meet the requirements of the work and generally organized as shown on Chart SS-1.

It is to be noted that the deputy commissioner, who is appointed by the commissioner, acted as the head of the city forces performing the work of street cleaning, sprinkling and flushing, the collection of ashes, street dirt, rubbish, and trade waste; the disposal of ashes, street dirt, and the incombustible portions of trade waste which have no salvage value; and snow work, together with the maintenance and repair of street pavements and sewers which are not a part of the services treated in this report. He also had indirect control over the other functions of the department theoretically, but practically only assumed such control in the absence of the commissioner.

The rubbish or incinerator plant where all rubbish is sorted, the valuable portions reclaimed and the nonvaluable parts burned, was headed by a superintendent but partially subordinate to the chief clerk.

Contract cleaning, sprinkling, flushing and contract snow-plowing were supervised by a chief inspector reporting directly to the commissioner. The deputy commissioner then assumed no responsibility other than that of an adviser to the commissioner in this work which has now been transferred to the city forces under him.

The contract removal and disposal of garbage has been partially supervised by the secretary to the commissioner, who, with the aid of inspectors, followed up complaints, but otherwise has been attended to by the commissioner personally.

Street railway snow work and sprinkling were inspected by the inspector working under the corporation permit clerk and the chief clerk and partially supervised or controlled by the commissioner and deputy commissioner.

Methods Employed on the Work.

The system of street cleaning which was used up to April, 1915, has been in existence for some fifteen years or more and consisted generally of cleaning the business district by city labor paid from the general tax levy, and the cleaning of residential districts by a combination of city and contract work, the latter covering about 75 per cent. of the paved area in 1914. It is this contract work which was abolished in April, 1915, so that now all the cleaning is done by city forces.

Sprinkling throughout the city has always been done by contract and this method is still in force. Wherever car tracks are located the street railway company is required to sprinkle the track area.

Ashes, street sweepings, some trade waste and rubbish, prior to 1911, were collected together in a mixed condition, hauled to the dumps on the outskirts of the city and disposed of in the fills. Since 1911, a separate collection of ashes and rubbish has been made, the ashes being disposed of at dumps as in former years, while the rubbish is carried to a rubbish plant where a part of it is reclaimed by sorting and the remainder burned in an incinerator.

Garbage has been collected and disposed of in a reduction plant by contract for the past nine years. Prior to that time it was collected by contract and disposed of to farmers who fed it to hogs or ploughed it into the ground for fertilizer.

Snow is entirely removed from a few main business streets and leveled to permit movement of traffic on the other streets. In the

residential sections the sidewalks are ploughed by contractors while in the business or central section the property owners are required to clean them. Wherever street railway tracks occur, the railway company is required to remove the snow from its tracks and leave the street in proper condition for use. When necessary to remove the snow entirely from streets where tracks occur, the company is required to pay 50 per cent. of the expense and do all the work if required.

Duties and Responsibility of Public.

In performing the work required in the sanitary services, the public works department is, to a very great extent, dependent upon the cooperation of individuals and the public as a whole in obtaining satisfactory results. A few changes in the law are required but Rochester people can in many little ways assist the department by more completely cooperating with it. An attempt should be made to interest the people of the city, especially children, in the "municipal housekeeping problems of the city" through publicity. Several methods are suggested as follows: First—use the equipment as a means of conveying information to the people by placing neat frames on the sides or back of the same in which carefully worded signs can be placed. Rochester paper wagons are especially adapted to such use. This method has been successful in several places, notably in New York City. Second—organize the interest of the school children by preparing instructive talks which can be given them either with or without pictures in connection with their school work. It is a necessary part of their education as citizens. Third—promote general public interest and the general pride of the men in the department, by holding a public works department show at the exposition buildings, offer a few prizes to school children for posters to be used on the equipment, demonstrate the work and equipment of the department by exhibitions and by illustrated talks, and stimulate interest by inviting successful men or women from other cities to talk about the department problems. Fourth—when the next clean-up campaign is started make sure the collection forces who must do the real work are made a special feature so that their work shall be recognized.

The sanitary services everywhere have too long been regarded as degrading both by the public and some of the employees. Such an idea is not proper, for these services are just as important as any performed for the city, and the employees in them work as hard, come in direct contact with and promote the comfort and convenience of more people more often than do those in any other single service. Their shortcomings are noted almost automatically and immediately bring forth

complaints. By acquainting the public with the problems of the department, much criticism may be turned into cooperation.

Complaints.

Complaints relative to the various functions do not now center in one place, but go to several individuals in the department and are handled in different ways by each. Complaints form the most accurate barometer of the results accomplished by any service which comes into direct contact with the general public every day. This is especially true of the sanitary services. The responsible administrator should always have at his elbow a current record of complaints, their character, result of investigation and disposition of the same. Under the present system the commissioner of public works has practically no routine control over such matters—in fact, never receives any record of a large portion of the complaints.

It has been recommended that all complaints, no matter what their nature may be, shall be sent directly to the secretary to the commissioner of public works who shall be provided with proper blank forms for the recording of the same. These complaints should then be handed either to special inspectors or to officers responsible for the work, who shall render on the blank a report as to the disposition made of the complaint. Periodically, a summary and a classification of the complaints should be placed in the hands of the interested officers, particularly the deputy commissioner and commissioner of public works.

The proposed future organization for the department of public works contemplates this method of handling all complaints, and its adoption is urged. Even if the city clerk's office is made to function as the central complaint office of the entire government, as elsewhere recommended in this report, the details of the procedure here suggested would need to be changed but slightly.

Relations with Other Departments.

It is necessary to obtain complete, continuous, intelligent cooperation between all departments in the city service if needless duplication be eliminated. Several places have been noted where the street cleaning and refuse collection forces have not received their full share of cooperation from the other departments.

Area and Data Maps Required.

To facilitate the work of the sanitary services, area and other data maps should be prepared. Such maps should be constructed with regard to the special requirements of the sanitary services and without

regard to other functions. It is recommended that large scale street maps be prepared with the assistance of the engineer's office, on which the areas of each block and intersection, together with the type of pavement and such other information as may be desirable, shall be placed. These maps should be prepared so as to show some single unit of the organization such as a section or a district. With them as a basis, especially if the small scale reproductions of the same are made for field use, it is very easy to lay out the work for the forces or to secure any information which may be required in the conduct of the work. Special help can be rendered by the police, health and fire bureaus.

Personnel.

The laborers used in the sanitary service must be taken from the list of registered laborers for street department work which is provided by the civil service commission. The only requirements of the civil service commission at the present time for registration on the labor list are that a man shall be a resident of the city of Rochester and a citizen of the United States. The commissioner of public works hopes that in the near future physical requirements for eyesight and hearing will be adopted.

It is recommended that this suggestion be immediately carried into effect and that specifications relative to age, height, weight and absence of physical weaknesses which unfit for the duties of the service be required of all candidates. Such requirements should take into account the fact that the need is for active men, who can be on their feet in all seasons, and for comparatively tall, strong men for the collection service who can lift heavy weights.

Teams are hired by the commissioner when needed, no teams being owned by the city, and as soon as they prove satisfactory they are given preference over the late comers. A very definite attempt is made to divide up the work so that all the men can earn enough to warrant the purchase of the specified equipment. On account of the requirement that they purchase a certain type of equipment for collection, which is expensive, the city is assumed to be under a slight obligation to give work to those who invest. It is to be noted that a large portion of the drivers own their own teams. This is a great advantage.

From 90c to \$1.20 per load is paid for ash collection, according to the distance hauled. It is expected that the teams will be able to earn about \$5.00 per day, but all are not able to do this at the present rate. It is recommended that the practice of paying according to distance and number of loads hauled be continued.

Instruction and Probation.

If, after a man is given a trial, he cannot do the work required, he is dropped and does not go back on the civil service list. This is the only way that undesirable candidates can be eliminated, as the civil service requirements are too low. By exhausting the list and then hiring men at large, the department is able to get capable men. The elimination is in the hands of the commissioner, who must rely upon the reports of his subordinates. The only method of instruction provided is that of working the green men with experienced. No standard instructions or rules are printed.

The work can be standardized much to the advantage of the service by a single instructing group or recruit school, which shall give each new man the proper kind of instruction during a fixed probationary period, make sure that he knows how the work should be done, try him on several jobs to determine which he is best fitted to perform, and then place him on the work properly qualified or reject him because he has been proven unfit. Such a provision in an organization as large as this will produce economies through the rapid elimination of incompetents, through the knowledge gained of the qualifications of each employee, and through teaching each man the standard way of doing each piece of work.

In order to make the instruction most effective, the best possible standard methods for doing the work should be developed by a study thereof with the assistance of the experienced men in the department. Such standards should then be set down in black and white for the guidance of the instructors and officers. The establishment of a definite probationary period is recommended.

Control Over Movements of Officers.

When the officers of an organization are allowed to perform their work with but nominal control from the central administrative office, they often develop careless habits. It is believed that a tendency towards such habits is present in some of the officers now employed by the department in the sanitary services.

It is just as necessary that the duties of the officers should be standardized, as it is that the duties of the employees performing the direct work of the service be standardized. To assist in effecting such standardization of the movements and habits of the officers, it is recommended that a station blotter or chronological record of the procedure in each station be maintained. This record can take the place of the day book now kept at the east side headquarters and provide a place where every officer can record the time he arrives at

or leaves the station, together with any notes of complaints or extraordinary occurrences. The blotter should be kept in duplicate and a carbon copy sent every day to the central office with the daily reports. A similar district superintendent's log can be carried by the superintendent to good advantage, in which can be recorded any notes relative to the work, together with the time and place where he meets other officers. Both of these books would form a diary for the reference of both the central office and the field office and should always be made in the handwriting of the individual making the record.

Uniforms.

Practically all of the matters relating to the personnel of the services are treated in other sections of this report except the question of uniforms and badges. At the present time only the regular sweepers in the business sections of the city are provided with uniforms and these are only worn during the summer. No badges are provided except in the business district where brass checks are used.

Uniforms are especially desirable in the sanitary services for several reasons:

1. They tend to prevent accidents to men working in heavy traffic streets.
2. They produce greater self-respect in the organization.
3. They assist in the supervision of the forces by making the men more easily distinguished by the officers.
4. They greatly improve the appearance of the force, thereby producing a more attractive city and a certain amount of pride in the force among the citizens.
5. They assist in the discipline of the force, especially through the agency of the citizen who can thereby easily distinguish between the city employees and private employees and will report negligence or breaches of discipline.

The type of uniform should be adapted to the work on which the forces are engaged. For sweeper or "white wings" it should be white in color. For loaders, drivers, truckers and dump laborers, it should preferably be khaki colored so that the dust will not be too apparent. Waterproof garments should be provided so that the work can be efficiently conducted in the rain.

Officers' uniforms should be designed with a view towards neatness, simplicity and durability.

Three methods for providing for the purchase of uniforms are suggested:

1. That the men be required to purchase them at their own expense.
2. That the city purchase them, and bear the whole expense.
3. That the city purchase them but that one-half the expense be charged against the men.

The first method is quite commonly used throughout the country, but in the face of the relatively low rates of pay and present possibility of irregular work in Rochester, the third method seems preferable, especially as no uniforms have been previously required. Each man should be obliged to own at least two uniforms, and the officers in charge should make an inspection every morning and insist that all uniforms be kept clean and neat.

In purchasing uniforms it is recommended that a contract be made for the whole force. An especially good method of purchasing by contract is to organize a committee for the preparation of specifications and invite representatives from the working force to serve, so that they may learn for themselves that the uniforms are purchased at the best possible prices. By such a method large savings can be made over the method of allowing each man to purchase his uniform for himself.

Compensation.

The compensation for work in the sanitary services except at rubbish plant is as follows:

Position.	Hour.	Day.	Month.	Year.
Laborers (snow)	\$.22	\$1.76		
Sweeper (extra)		1.76		
Sweeper (regular)		1.76—2.00		
Trucker		2.00		
Loader		2.00		
Returner		2.00		
Squad foreman or leader			\$60.00	
Dump foreman		1.76—2.00		
District foreman			85.00	
Teams	.60	and by the load		
Street superintendents				\$1,600

No laborers are employed on other than a daily basis and only a few get regular work. It is especially desirable to classify the service and to establish graded standard rates of pay which will allow an employee who renders faithful, efficient service to be rewarded. It should be possible to pay more than one rate for a given job, otherwise superior service is discouraged and ordinary service encouraged.

The compensation which really counts with good men is the yearly earning, not daily earning. As far as possible men should be employed continuously for their advantage and for the interest of the city. Any

need for extra help should be filled from a group of temporary employees who should be listed and rated according to length and quality of service. When a regular position becomes vacant, a qualified extra man with good record should be advanced. Extra men should receive the same rate per day as the lowest paid regular man, but take chances on getting work. The extra men should be used on all jobs open in the service and their numbers kept at a minimum, in order that they may each be able to earn as much as possible.

Records.

Practically no written records are kept by anyone in the service, either of the past history, physical characteristics, time of appointment, length of service, quality of service, or complaints, of the men in the department. The memory of the various men connected with the administration of the department is depended upon for such information. The method of control over the organization, as far as inspection, employees' records and discipline is concerned, is almost entirely an arbitrary matter, in the hands of the commissioner. Such practice is not advisable in a department as large as this one, and a complete history of each man should be in the files of the department for reference.

Inspection and Discipline of Men.

In case of dissatisfaction with the work of any man or his appearance in an intoxicated condition, it is customary as a matter of discipline to lay him off for a while, which amounts to a fine. This rule holds not only for the laborers but for the foremen and superintendents as well, and is put into operation by the commissioner upon his own initiative. If the insubordination or other offense is exceedingly great, the man is immediately discharged or, if required by law, brought up on charges.

This method of discipline was probably satisfactory when the force employed was small, but as the force grows larger some more accurate and formal method should be employed which will assure fair treatment for the men and take as little of the commissioner's time as possible. The establishment of a disciplinary code, the definitizing of the extent to which each officer may go in the control of the forces under him, the provision for trials of the serious cases under some proper official and a complete recording of each case are recommended.

Promotions.

Promotions from the labor group to the competitive class, which includes the officers of the department, are made by the civil service

commission on examination only. Slight promotions have been made available in the department by allowing men who are especially satisfactory as street cleaners to transfer to the ash and rubbish collection squads where they can receive \$2.00 per day, or by placing them on the regular routes in the center of the city where they can get the same amount, and by giving them authority as working or squad foremen. If graded wage rates are adopted and a record kept showing the quality and length of service rendered, promotions and demotions may be utilized in encouraging faithfulness and assisting in discipline. Such a system is preferable to one of fines and suspensions, which generally places the hardship more on the employee's family than on the employee, and is recommended for adoption.

Retirement or Pension.

To the present time no provision has been made for the pension or retirement of men who have grown old in the service. The only way this can be done under the present arrangement is to remove them from active service and give them a position of minor importance on work which does not require much action, such as janitor of a district station or yard keeper.

Rochester is now employing a large number of old men in its service who are not capable of doing a full day's work. Not being able to retire them and to replace them with active men, the department is handicapped in performing its work, yet cannot rightly let the men go. Some provision should be made to take care of the old men in the service and the establishment of a proper pension system is recommended. Of even more importance in this connection is the careful selection of all new men hereafter.

Charity and Street Cleaning.

It is noted that a large number of the old men working on the streets are kept there on the theory that it is better to get some work from them than to have them objects of charity and an expense to the city, or to make them lose their self-respect through placing them in the ranks of the indigent. This is no doubt a fair decision from one point of view, especially if the charity institutions are the old style poor houses and not old peoples' homes, but with proper provision for the old people where they can do some work and at least help to pay their way, it is undoubtedly better both for the individual and the city that they be taken off the streets. From the point of view of efficient street work they must be either removed from the streets or worked by themselves separately from the active men, preferably on individual assignments.

II. SPRINKLING AND FLUSHING.

General Review of Methods, Organization and Functions.

As has been previously stated, the work of street cleaning and sprinkling as conducted prior to April, 1915, was divided into two parts,

A—Contract cleaning, sprinkling and flushing.

B—Cleaning and sprinkling by city forces.

The main business streets and certain of the main thoroughfares in the residential districts were entirely cleaned by city labor. A large portion of the remainder were cleaned under a contract system. Residential streets which did not come under either of the above classifications were cleaned by the city forces. Under the old arrangement the cost of cleaning streets by contract was one-half assessed upon property owners fronting on the street cleaned, and the other half paid out of the general tax levy by the city, while all work done by the city force was paid from the general levy. Under the new scheme, whereby the city cleans all the streets, this system of assessing the cost will be continued, unless a change is made in the ordinance.

Sprinkling has been and is now entirely done by contract, a single contract being let covering the entire city. This work has generally covered a season of 34 weeks, ending about December 1st.

Flushing has generally been conducted by contract, except early in the spring before the contracts were let, when hand flushing with hose has been used in the business section to supplement machine flushing. This work will be conducted by the city in the future.

The system of contract cleaning was the result of gradual growth during a period of over fifteen years, starting through the desire of the residents on one of the best streets to have the work of cleaning done more thoroughly and more often than the city officials felt was required. It enabled them to get the work done by paying one-half the cost. The system had developed to a point in 1915 where some forty-six separate individuals or contractors would have been employed to clean 568 streets or sections of streets covering 70 percent of the paved area of the city. Under a provision in the charter it had been customary to let a contract to the bidder who obtained on a petition the signatures of a majority of the property owners abutting on the streets to be cleaned, whether he was the lowest bidder or not. This was done because 50 per cent. of the cost of the work was paid directly by the property owners through local assessment, and it was thought they should be allowed to select the men in whom they had most con-

fidence to do the work. Much abuse of this privilege had developed, until in 1915 the total cost of the work, if let to majority petitioners, would have been \$122,793.90, while the low bid was \$87,477.78. This meant that the citizens of Rochester would have been obliged to pay \$35,316.22 more for the work than was actually necessary.

In addition to the added expense to the city as a whole and the difficulty of supervising work so broken up in the cleaning of those streets not covered by contract by the city forces, abuses crept into the system which made this method very unsatisfactory. It is understood that it was a common practice for men to obtain signatures to their petitions through the influence of friends by political methods and it is thought in some instances, at least, even fraud, all of which worked to the disadvantage of the citizens, property owners, and city as a whole. It was on account of these difficulties and abuses that the commissioner finally decided that the work should be done by the city forces, and an ordinance was passed early in April of 1915 enabling him to undertake the work.

Study of the local conditions indicates that this increase in street cleaning work of nearly 75 per cent can be properly handled without adding to the expense of supervision which the city is now under, and the labor cost should be as low as that of the contractors on account of the ability to use labor saving machinery to advantage. In other words, the city should save all the expense of supervision which the contractors were under, plus their profit, if not a part of their labor cost.

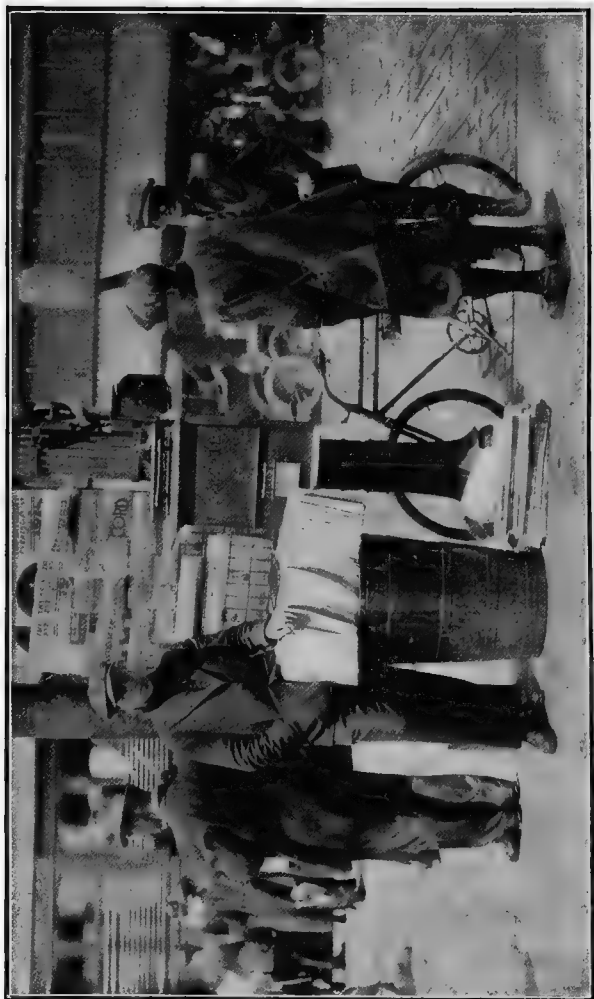
It is also believed that the quality of the work done by the contractors was not any better than that done by the city forces; in fact, only continuous inspection secured work of a character as good as that performed by the city forces.

Change in System Justified.

It is believed that the change from contract cleaning to cleaning by city forces is a step in the right direction. It is common experience that where work of a nature which cannot be easily measured is let by contract, the results are not satisfactory. Either the cost is high or the quality poor. The best way to handle such work is by a public force not working for profit. Rochester is fortunate that the change has been made, and should save nearly \$50,000 per year and also obtain better service.

Duties and Responsibility of Public.

Ordinances promulgated by the common council to prevent the abuse of the public highways and to assist in the cleaning thereof



How the public rubbish cans fail to serve the purpose for which they were intended. This can is being used as a news stand.

may be summarized as follows: **First**, three ordinances covering the littering of streets with advertising matter, fruit skins, ashes and other rubbish; **second**, three ordinances covering the sweeping of dirt or refuse from the sidewalks, lots or buildings, and the cleaning of the sidewalks; **third**, an ordinance prohibiting the placing of building material upon streets without a permit; **fourth**, an ordinance prohibiting the distributing of ash or rubbish receptacles or the contents thereof; and **fifth**, an ordinance prohibiting the discharge of soot from chimneys.

In general the people of the city assist the department in keeping the streets clear of litter by conforming with the ordinance, but the public could be much assisted in this matter if the rubbish receptacles provided for the collection of such litter were made more accessible.

Better Public Rubbish Receptacles Needed.

The receptacles now provided are wooden barrels provided with a flat hinged cover. This provides a convenient place to set or place objects and gives the lazy person an excuse for throwing litter into the street. It is common to see these barrels used by the newsboys. The accompanying photograph illustrates one of the most flagrant of these abuses, as every day for several hours this receptacle was used in this way, and its proper use practically prevented. Such abuses should be prevented by the police force, as the law prohibiting the interference with rubbish receptacles covers the case.

It is recommended that a different type of receptacle be adopted. It should preferably be of metal with a hooded top which will keep out the rain but open to allow of refuse being thrown into it without lifting any cover, of pleasing appearance, easily emptied and durable.

The sweeping of sidewalks at times other than those specified in the ordinance is especially noticeable, and little attempt is made to stop it. Such sweeping should either be done by the city forces, the ordinance strictly enforced, or the property owners or tenants required to pick up the sweepings and place them in a receptacle in the same way that they do the sweepings from inside their shops. It is recommended that the latter suggestion be enacted into law and enforced, as it more definitely fixes responsibility for the care of the sidewalks than the other systems.

Condition at Start of Survey.

In order to show what the conditions were when this survey was started and to show why such a change in method is undoubtedly to

the advantage of the city of Rochester, this section will include not only a discussion of the work by the city forces, but that of contract forces as well. For convenience, contract work will be treated separately from work by the city forces.

A—Contract Cleaning, Sprinkling and Flushing.

Specifications Generally Satisfactory.

The specifications for contract work generally provide for a good quality of street cleaning except in the case of flushing, where the use of sprinklers is not satisfactory. Only by close and continuous inspection is it ever possible to ensure satisfactory work. The tendency on the part of the contractor is always to make as large a profit as possible with the least work. Because of the lack of fixed standards of quality in such work, inspection itself does not produce the results which can be required of city forces.

Conditions to Be Met.

The conditions which were met by the contractors in cleaning the streets were the same, or practically the same, as those met by the city forces at the same time, as will be described later. In the case of sprinkling, the contractor still performs the work and covers the streets cleaned by the city forces, as well as those on which contract cleaning has been done.

Equipment.

The equipment prescribed by the commissioner of public works for the contract cleaning of streets is the same as that used by the city forces, with the exception of the pushcarts and barrels which are painted black instead of red.

The equipment used for sprinkling is a two-horse cart with a nozzle allowing control of spray on either side for machine sprinkling, and ordinary fire hose and nozzles for hand work.

For machine flushing, ordinary sprinklers have been used in many sections, only four pressure machines being owned by the city, and one by the contractors.

Methods and Procedure.

The method of cleaning the streets under the contract system has been practically the same as that of the city, except that no machine sweepers were used and general assignment of individual work has been practiced.

For the work of sprinkling, routes are laid out covering a large portion of the city over which during all dry weather the sprinklers are kept constantly traveling. The supply of water for the cart is taken from the ordinary fire hydrant by the use of a piece of hose and a semi-permanent auxiliary gate valve fastened to one of the hydrant nozzles.

If the fine dust were thoroughly removed from the streets by flushing at night or early in the morning, it should be possible to stop a great deal of the sprinkling. This is especially to be desired in the business portions of the city or on asphalt. Sprinkling, except for the purpose of cooling the street, which is of only very temporary benefit, is never thoroughly satisfactory and in heavy traffic is liable to splash pedestrians and to cause accidents by making the pavements slippery. The same amount of money spent in flushing should bring about better and much more satisfactory results, except in close proximity to macadam streets. The change to flushing is recommended where possible.

The method of flushing by hand under the contracts is practically the same as that used by the city. The machine work, however, which has been termed machine flushing, as carried out by the use of the ordinary sprinkling cart with wide open valves could hardly be termed flushing. A flooding and partial washing of the streets was accomplished, but this type of work is considered unsatisfactory, and it is intended in the future that pressure flushers be used. This is a wise plan and an investigation of automobile flushers equipped with a pump adapted for either sprinkling or flushing has been suggested.

Disposal of the street cleanings was accomplished by the contractors in much the same way as by the city forces, viz.—the loading of the cleanings into ordinary bottom dump wagons and transporting them to dumping places, or having an arrangement with a property owner whereby the material could be placed in a manure pit on a vacant lot. It is to be noted that the individual sweepers often filled the catch basins by sweeping into them, thus causing trouble and expense for the city.

Much of the contract work of cleaning was done by individuals, but whenever a large group of streets was undertaken by a single contractor the work was organized along similar lines to that of the city forces and supervised by the contractor with the assistance of foremen if necessary.

* The laborers used by the contractors were not required to be residents of the city of Rochester, and no standard rate of pay was given. In general, it was a question of bargaining between the contractor and

laborer on a piecework basis, whereby it was agreed that so much would be paid per week for the cleaning of a certain section of streets. The men were arbitrarily selected and discharged by the contractor and no uniforms were provided.

Results Obtained.

The results obtained through contract work were not generally better than those obtained by the city forces and in many cases not so good.

To enforce the contract the commissioner, acting on the reports of inspectors, placed an arbitrary fine, usually \$5.00 or \$10.00 for the first offense, upon the contractor found negligent. If this did not produce the desired effect, the commissioner did the work with city forces, charging the contractor with the expense of the same and sometimes making an additional fine or cancelling the contract. The constant need for checking up the work of so many individuals, the overlapping responsibility between the city and the contractor's forces, and the abuses which were prevalent, made the continuance of such a system intolerable and very expensive when considered from the point of view of the city as a whole.

Cost of Work.

The cost of contract work to the citizens of Rochester in 1914 was as follows:

Sprinkling	\$ 49,795	
Street cleaning and flushing.....	107,925	(includes inspection)
	\$157,720	
Paid by city from general taxes....	\$ 53,963	
Paid by citizens locally assessed...	\$103,757	

As has been stated elsewhere, it is apparent that nearly \$50,000 can be saved for the citizens and as good or better service rendered by abolishing the contract system.

The use of laborers working on the streets not wearing a uniform, at a low rate of pay, under contractors interested only in the profit they can get, and using methods which are not uniform, tends to injure the appearance of the city with no gain in service or decrease in costs. In this and in many other ways, some of which have been mentioned elsewhere, the city will profit by the change to cleaning by city forces, and the administration should be heartily supported in its effort better to serve the city.

It is recommended that street cleaning be paid for out of the general tax levy. Even though special assessments are continued, the figuring of the detailed actual cost of work on each street or section of a street should be abolished and a standard scale of assessments developed based upon experience. This will simplify the book-keeping methods greatly and produce the same effect. The difficulties met in this respect are treated more in detail in the section covering cleaning by city forces.

B—Cleaning, Sprinkling and Flushing by City Forces.

Duties.

The duties of the city forces relative to the cleaning, sprinkling and flushing of streets, as previously indicated, have always included the care of the streets in the business section and some other streets in the residential section. This did not, however, include the work of sprinkling or flushing except in the early spring months prior to the letting of the contracts. Before starting machine flushing the city sewer cleaning force gave the streets a thorough washing several times with hose, after which the flushing of the business section was continued by compressed air flushing machines furnished by the city and operated by teams hired by the day or by contract. The duties of the force now cover the entire city and include all functions except sprinkling, which is still done under contract.

Conditions to Be Met.

In the work of street cleaning the character of the population, the type of paving on the street, together with the type of business or property fronting on the street, are the main elements which cause differences in the conditions which must be met by the forces performing the work. In the central business portion of Rochester the population and business conditions are those of the commercial hotel, theatre, office and better class manufacturing districts of any large well arranged and controlled city. By far the greatest proportion, probably about 50 per cent., of the pavement in the business section is Medina block or Medina stone, while the remainder is practically all asphalt.

The condition of the pavement, particularly near the car tracks and car crossing or switches, leaves much to be desired. Depressions and crevices allow water to remain for hours and collect a great deal of mud and dirt. This may be largely a spring trouble which will be remedied, but it is not entirely that. It is recommended elsewhere

herein that steps be taken to obtain better foundations under the tracks and better rails. Such action will eliminate these conditions.

Some of the stone block streets are very old and have become so worn that the joints between the blocks hold a great deal of dirt which can be removed only with difficulty. The gutters along some of the streets have rather poor grade to carry off water which has been put on the streets in flushing. Surface sewers are not generally provided with catch basins to collect mud which may be flushed off the streets and carried to them by the water, but are generally direct pipe connections covered with an iron grating. It is understood, however, that on account of the good grades on which they are laid, very little trouble has been experienced in the clogging of these sewers through the practice of flushing.

Steps should be taken to eliminate all low places in gutters through repairs. If necessary, a change in the design of the streets or the placing of a sewer so that water will not stand in pockets anywhere on the street surface should be obtained. When new pavements are laid the requirements for proper cleaning should be made a matter of primary importance.

The pavements in the residential districts are largely asphalt and brick, except along the main thoroughfares and on steep grades, where Medina block is commonly used. The remainder of the streets have a macadam surface, often oil or tar treated, but these are rapidly being discontinued and replaced by asphalt and brick. This replacement will decrease the extra work caused by the blowing of the dust and the tracking of the mud from the unimproved or macadam streets onto the paved streets, will greatly increase the paved area, and should assist in securing cleaner streets.

The type of surface sewer in use in the residential districts includes a shallow catch basin consisting of a brick vault 24 inches by 30 inches, implanted four feet deep, with a nine-inch pipe outlet about one foot above the bottom. It does not well meet the requirements of flushing and cleaning. On contract work they have often been filled with street dirt by lazy sweepers.

The spacing of the hydrants and the pressures available in the different parts of the city are very good. It is easy to use hand flushing methods nearly everywhere.

Equipment.

The equipment used by the city forces in the cleaning, sprinkling and flushing of streets consists of brooms, shovels, barrels for sweeping, hand barrel trucks or pushcarts, sweeping and sprinkling machines, road scrapers, etc.

Experience in other cities does not favor the steel brooms and the bass brooms now in use seem much to be preferred, especially if the ends be filled out more so that they will clean the gutter next to the curb better. A careful study should be made to determine what brooms, both from the point of view of cost and quality of work, are best adapted to the local conditions, but quality should be the primary consideration.

Two types of shovels are used, one especially made for the department as the result of a suggestion by a member of the organization. They are the Sanderson No. 7 scoops (heavy) and extra wide shovels (special). These special shovels are particularly convenient and useful, as they are light enough and large enough both for scraping materials from gutters and the streets surface, and for snow work.

The barrels used by the sweepers and for the collection of litter from pedestrians are alike, except those used for the sweepers are open at the top while those used for litter are provided with a flat hinged cover. The sweepers' barrels are heavy and through their nearly cylindrical shape do not in emptying allow material to fall out freely nor can they be nested to economize space in transporting or storage. It is believed that a galvanized iron can tapered from the top to the bottom can be purchased for less money, and will be more convenient to handle or store, especially in case a sweeper desires to take several from one place to another on his carrier.

The sprinkling machines are ordinary two-horse wooden tank carts which carry about 700 gallons per filling; and the flushing machines are of the closed tank, compressed air type which carry a load of about 600 gallons of water, not all of which can be used effectively. It is recommended that before purchasing any more horse-drawn sprinklers or flushers a thorough study be made of automobile combination sprinklers and flushers. These should prove much more satisfactory and cheaper to operate per unit or area cleaned, especially if they are run sixteen hours per day as is entirely practicable.

The hose used in hand flushing is ordinary two and one-half inch fire-hose. With the pressure available in Rochester such large hose is not required and should not be used. It has been recommended that smaller hose be tried in connection with a reel; and two reels with one and one-half inch hose have been purchased. It is expected that two inch hose will give better results where the pressures are lowest, especially where more than 150 feet are used.

It is customary every spring or during the winter to clean, overhaul and paint all large pieces of equipment at the shop so that they will go on to the job in good condition at the opening of the season.

In the same way repairs are immediately made by the workmen from the shop whenever required. The appearance and apparent good repair in which the equipment was found speak well of the department.

Methods and Procedure.

In the business district the spring clean-up is generally made by hand method or by a series of thorough flushings with hose. Usually two or three lengths of hose are handled by three men, one man being used as a hydrant man, a second as nozzle man and the third to assist the nozzle man. Observations made on hand flushing as conducted between the hours of 12 P. M. and 6 A. M. of Friday, April 16th, were as follows:

The sewer maintenance foreman started with a crew of fifteen or more men split up into gangs of two or three, working in some cases by themselves and in others two gangs together, one taking one side of the street, and the other the other. The foreman made use of a small motor truck to carry the hose from place to place. The men were not provided with any kind of a reel or carrier. Usually in moving from one hydrant to another the hose was dragged by the men, but sometimes it was uncoupled, rolled up length by length and carried to the next hydrant. When the motor truck was in the vicinity, it was used to drag the hose. The apparent lack of system in flushing, except on the part of one or two gangs, can probably be accounted for by the fact that regular hand flushing is not practiced. The size of the nozzle and hose and the high water pressure waste much water, as the men are not able to keep up with the water in the speed of performing the work. It was noticeable that the hydrant man in most cases could well have been spared.

After the spring clean-up has been made by hand flushing in the business district, for the remainder of the season the pressure flushers are operated at night by teams hired by the city and maintain the streets in such shape that hand patrol methods are all that are required during the day. The cost of such work on Medina streets is reported as approximately 40 cents for 1,000 square yards, not including the cost of water or equipment.

It is recommended that in the future where hand flushing is conducted smaller hose and nozzles be used, the gangs be always two men each and be provided with a proper reel for the movement of the hose, that rubber covered hose be used to decrease the wear and tendency to rot if not well dried out, and that each gang be given a separate assignment and finish both sides of the street as far as their hose will reach before making a new connection.

By carefully laying out the work under this method the cost should be reduced below 30 cents per 1,000 square yards and better results obtained than are possible with the horse-drawn machines of the pneumatic type.

In the residential districts, the general methods are to make the spring clean-up with gangs of men and machine sweepers under a squad foreman. When necessary the machine brooms are preceded by a sprinkler. Usually two machine brooms work together. A piling gang follows the machines and an attempt is made to stop machine work in time to use the teams to haul away whatever material has been piled. Very often the material swept one day is not piled until the second, and, in some sections at least, during the last of the week the material is allowed to stand in piles from one day to the next, when it is picked up by the ash teams which have at that time completed the ash collection.

In the spring the gangs on the piling are divided much as follows: four men on broom sweeping, and two men with shovels scraping and piling. It was to be noted that the men with the shovels did not appear to be doing effective work. The men with the brooms were able to do the same work in less time and with much better results, with the exception of a few places.

The gangs of laborers working on the streets often contain two or more old men who are evidently unable to keep up with the strong active workers, although they may to the extent of their ability do an honest day's work. It seems apparent from the observation of one gang that the effect of these men is to slow up the whole gang and thus work toward inefficiency and high cost.

It is believed that the practice of allowing machine strokes or piles of sweepings to remain on the street for several hours should be stopped because wind and traffic scatter much of the dirt over the street again. Two ways of preventing this are recommended. One is to have a pickup wagon follow the piling gang closely so that the piles can be loaded at once; and the other is to place the dirt in sweepers' barrels to be picked up later, or even left along the street where the work is done. The latter method or an adaptation of it will probably prove most successful in Rochester, especially on those streets where the machine work covers regular sweepers' routes. The practice of piling material along individual sweepers' routes and the sending of a team over the route to pick it up is recognized by the department as bad and is now being rectified as fast as barrels can be furnished to hold the material.

After the spring clean-up machine brooms are used on most of

the asphalt or brick streets one to three times per week, according to the district, and are followed by a gang picking up the stroke. It is expected that this method will be continued this year.

It is a question whether machine sweeping is a satisfactory way of cleaning streets either from the sanitary or financial point of view. The broom cannot remove the fine dust and very often only spreads mud in a thin layer over the street surface where it dries and later forms dust. This dust must be sprinkled so as to stick it to the pavement or it becomes a nuisance. Many cities use the machines only on their dirtiest and rough block streets, but the almost universal opinion is that the only way at present to get a really satisfactory clean street is to use water with squeegees on smooth surface streets or in flushing on any street. If the flushing is well and often done, the dust nuisance disappears, sprinkling becomes unnecessary and the sweepers' routes can be doubled in length. Careful study of such methods should be made before any more sweeping machines are bought in Rochester and a determination made as to the relative results and costs of hand work versus machine work and machine broom work versus flushing.

It is probable that the city will continue to flush certain streets which the contractors have been in the habit of flushing. The general use of sprinklers for this purpose is not at all satisfactory as they use excessive water and do not do effective work. If flushing is to be continued, it should be done by use of either hose or machines. Analysis of the two methods seems to indicate that machine flushing is cheaper and better, if a motor driven flusher equipped with a pump is used.

Hand flushing is more effective than machine flushing on rough pavements. Either system should make a very considerable saving in Rochester and greatly improve the quality of the work, especially if it is done often enough to enable sprinkling to be stopped. The adoption of flushing as a general method of cleaning is recommended, and the use of machine flushers of the automobile type which shall be operated sixteen hours per day at least should be considered.

The material collected from the streets and sweepers' barrels by the teams is dumped with the ashes on dumps at the outskirts of the city, except when requested for filling by private parties or by the health department. Where this can be done it should be encouraged because it avoids the necessity of hauling it away.

Organization and Control of City Force.

Under the old system when the contract work was in effect, the organization for street cleaning was as is shown on chart No. SS-1.

The deputy commissioner was practically in responsible charge of the work. He was assisted by two street superintendents, one in charge of the work on the east side of the river, and the other in charge of the work on the west side. Each street superintendent had under his supervision four or five districts, each in charge of a district foreman. They in turn were assisted by sub-foremen and squad foremen. Thus the city was divided into ten street cleaning districts. After conferences with the commissioner and other officers of the department, the following suggestions were made as a first step in reorganization to meet the large increase in the work of the city forces:

- 1—Divide the city into three districts, one including all the business portions of the city, a second the residential portion on the east side of the river, and a third, the residential portions on the west side of the river. (See accompanying map.)
- 2—Subdivide each of the districts into sections with a section foreman corresponding to the present district foreman, in responsible charge of each. (See map.)
- 3—Abolish the present inspection force on the work of sprinkling or cleaning the streets where the work was formerly done by contract.
- 4—Make the section foremen directly responsible to the district superintendents for the proper supervision, routine inspection, assigning and reporting on all of the work of cleaning streets, collection of ashes and rubbish, sprinkling and the plowing and removal of snow on the streets within the limits of their section. (See chart SS-5.) (The collection of refuse as is shown in another section is now under their supervision.)
- 5—Provide a proper section headquarters for the storage of tools and equipment within each section. These stations should be as near the center of the work in the section as possible, and connected by telephone directly to the district headquarters.
- 6—Make the district superintendents directly responsible to the head of the organization above mentioned for the close supervision, inspection and control over the routine work of the section foremen within their districts, together with the care and assignment of equipment used in more than one section, and the supervision of all land dumps or places of disposal other than the rubbish plant or garbage plant. (See charts SS-3 and SS-4.)
- 7—Require each dump foreman to report directly to the district superintendent of the district in which the dump is located and make him responsible to the district superintendent for the proper

supervision and reporting on the work at the dump. (See chart SS-4.)

The accompanying map shows the proposed district and section lines as tentatively agreed upon in conference with the commissioner of public works. It shows district No. 1, or the central district, is divided into sections Nos. 1, 2, and 3 and by the section division lines. Similarly, district No. 2, or the east district, is divided into five sections, Nos. 4, 5, 6, 7 and 8, and the west district or district No. 3, into four sections, Nos. 9, 10, 11 and 12. It is thought that after the annexation of Charlotte a fifth section should be added to the third district.

It was noted that the present section stations or offices can be used for headquarters to advantage in all but three sections. In section No. 9 there are now two stations, one of which should be moved into section No. 10, and in sections No. 5 and No. 7 new stations should be provided. Two of these changes have already been made.

Inspection.

Four general methods of inspection are possible in addition to that which must be made by the officers in charge of the routine work during their regular tour of duty:

- 1—By the head supervising officers of the administration.
- 2—By special inspectors.
- 3—By the police.
- 4—By the public.

Of these possible methods only two were actively used, namely, the first and fourth. It has been customary for the deputy commissioner to make regular trips over the whole work to see that it was properly carried out, and the commissioner also made trips more or less regular in character. The special inspectors used on other work by the department of public works such as the inspection of sidewalks and street openings did not assist at all. No special inspectors for this particular work were provided.

The police only assisted in this work when conditions were so bad that they were obliged to send a complaint to headquarters which was transmitted to the department of public works. Such complaints were seldom received.

The public are always very active in their inspection when the conditions in their particular neighborhood are bad.

It has been suggested that for the present at least the head of the organization be provided with a staff inspector whose duty shall be to assist in putting into effect such changes in organization as are

decided upon and in inspecting the work to see that it is properly carried on.

Reports and Records.

Field.

The reports made out by the officers in the field include:

- 1—Daily time sheet for labor on streets showing the men's names, the time spent on various kinds of pavements and the streets on which the work was done.
- 2—Daily time sheet for teams used in collecting sweepings not made by machines.
- 3—Daily time sheet for labor in connection with machine sweeping
- 4—Daily time sheet for teams used on machine sweeping and the picking up of the material afterward.
- 5—Daily time sheet for street flushing by machines (all hand flushing being reported on a form for sewer flushing).

From the above named field records all summaries of costs and payrolls are made. On account of the need for assessing the cost of the work done on the streets or sections of streets formerly cleaned by contract, it is necessary to maintain an elaborate set of detailed records in the field. These greatly interfere with the work of the field officers, forcing them to do clerical work in their offices when they should be outside. Moreover this work has no compensating advantage. This method should be abandoned at the end of this year and in its place a fixed charge per unit of area cleaned should be substituted based upon past experience, or the work paid for by general tax levy.

While no doubt many improvements can and will be made in field records, they fit the work very well and bring into the office the necessary information. New forms are now being studied out to meet the conditions of reorganization suggested, and it is expected that the local bureau will cooperate with the department in their development. It is believed that the use of numbers or badges on the men and teams will facilitate the report work and it is recommended that such be carefully considered in the preparation of new forms with the view to simplifying the field reports.

Results Obtained.

The results obtained by the city forces are exceptionally good compared with those obtained in many cities of equal size. This is without doubt due to two facts:

- 1—The great degree of civic pride on the part of the citizens, which has caused them to spend more money in cleaning their streets than is usual.
- 2—The attitude of loyal public service which is evident throughout the department.

Whatever shortcomings may be pointed out in this report are natural ones and are existent in every similar service in other cities, to a much greater extent in most cases. The suggestions offered for their remedy are given with the hope that they may assist the department in solving its problems sooner and more easily than might otherwise be possible.

Costs.

The cost of city work in the past two years is shown, together with the cost of contract work in the following table.

Cost of Cleaning Streets.

<i>City Work.</i>	1913.	1914.
Cleaning pavements	\$ 71,903.12	\$ 60,010.79
Cleaning bridges (river)	1,455.75	1,078.80
Cleaning macadam	9,910.33	9,075.62
Cleaning alleys and mowing weeds	1,183.77	1,021.73
Total cleaning labor and teams.....	\$84,452.97	\$71,186.94
Supervision and district station expenses approx.....	9,349.28	9,565.34
Total cost city cleaning outside central office expenses.	\$ 93,802.25	\$ 80,752.28

Contract Work

Total cleaning and flushing contract.....	\$ 89,243.32	\$104,307.42
Inspection and advertising	3,797.92	3,617.80
Total cleaning and flushing contract.....	\$ 93,041.24	\$107,925.22
Total sprinkling contract	\$ 43,161.72	\$ 44,254.70
Deductions	1,821.83	1,677.40
Net cost sprinkling	\$ 41,339.89	\$ 42,577.30
Inspection and advertising	6,473.90	5,540.38
Total cost sprinkling	\$ 47,813.79	\$ 48,117.68

Summary

Total cost city cleaning	\$ 93,802.25	\$ 80,752.28
“ “ contract cleaning	93,041.24	107,925.22
“ “ cleaning whole city ..	\$186,843.49	\$188,677.50
“ “ sprinkling	47,813.79	48,117.68
“ “ cleaning and sprinkling	\$234,657.28	\$236,795.18

Area and Mileage of Streets Cleaned.

	Miles	Sq. Yards
Paved streets, January 1, 1914.....	204.60	3,547,325
Macadam and gravel streets, January 1, 1914.....	33.86	447,813
	238.46	3,995,138
Approximate area cleaned by city forces.....		1,318,339
Paved streets which would have been cleaned under contract in 1915		2,676,799
		(75 per cent. of paved area)
	Per 1,000 Sq. Yards	
	Pavement per Year.	
Approximate cost city cleaning 1914.....		\$53.00
“ “ contract cleaning		40.00
“ “ all cleaning		47.00
“ “ cleaning, sprinkling and flushing whole city		59.50

The figures given in the above tables are of little value for comparative purposes, for the number of times cleaned and the quality of the pavement makes a very great change in costs. The figures indicate, however, that the costs on city work have been lower than the contract costs when it is considered that much of the city force works the whole year and cleans stone block pavements, while the contractors force only worked thirty-seven weeks and cleaned mostly asphalt and brick.

III. SNOW REMOVAL.

Ordinances promulgated by the common council in respect to snow removal may be summarized as follows:

- 1—Ordinance requiring the property owners to remove snow from their sidewalks.
- 2—Ordinance prohibiting the sweeping of snow from a building or lot onto the sidewalk.
- 3—Four ordinances specifying the duties of the street railway company.

The last named ordinances contain some duplications and it would seem advisable to have them consolidated into one if the city ordinances are revised. Each of the three agencies engaged on snow removal will be considered separately, viz:

- a—City forces.
- b—Contractors' forces.
- c—Street railway company forces.

A—Snow Removal by City Forces.

Duties.

The city forces are especially charged with removing the snow from the more important streets in the business center of the city where they work with the street railway forces. They also open the other streets for traffic and see that the crosswalks and gutters are cared for. Practically no snow plowing is done on the sidewalks in the business district as the property owners are required to remove the snow and ice without the aid of ploughs. In addition the city forces clean some streets where car tracks are located, in which case one-half the expense is paid by the railway company. They are also often called upon to furnish men or officers to clean up places where the property owners or contractors do not complete their work. When such work is done the expense is charged against the individual or contractor, and, in addition, an overhead charge of 50 per cent. of the amount thereof.

Conditions to Be Met.

In the center of the city all snow which is removed must be loaded onto carts or sleds, carried to the river or canal and there dumped. The main difficulty which is experienced in this kind of work is the securing of proper labor in sufficient quantity to finish the work quickly. The work is of an emergency nature and all extra labor must be secured from the ranks of the unemployed. This means that a large portion of the labor is of poor quality, many of the men being without proper clothing or strength to work, and as a result it is impossible to obtain as efficient results as are desired.

The need for bringing the officers and forces of the department from the outlying or residential sections into the center of the city, and the need for a large number of temporary officers to supervise the work of removal, always make it difficult for the department to get enough qualified officers to look after this work.

There is no reason why the public works department should try to carry on all of this emergency work with its own forces, or even to officer it with its own men, especially as there are available in other parts of the city service a large number of men qualified to assist, who, during the snow season, are not driven with routine work. The police department can assist to a much greater extent in providing labor, especially if a registration of available labor is conducted prior to the first snow-fall. The police can also act temporarily as assistant foremen or even foremen in the management of the work, especially in directing traffic. The charities department already assists

by placing in the hands of the department lists of men who need work. All officers or employees in other departments who can be spared for a few days—even including clerks to check loads, etc.—should be temporarily placed at the disposal of the department of public works whenever a big snowstorm occurs.

By such cooperation between departments it should be possible to carry on the work much more easily and without sacrificing the efficiency of the forces on the regular collection. The scheme as above outlined has been tried out thoroughly on a large scale in New York City during the past winter with great success. Here, men employed in other departments, temporarily working on snow, were paid during such work one and one-half times their regular salary as a compensation for the extra hardships involved. It is recommended that steps be taken to bring about such cooperation in Rochester as far as it can be used.

Methods and Procedure.

When a large snowstorm starts, the city force of street cleaners is concentrated in the business portion of the city by calling in the foremen and laborers of the residential portion. They, together with certain inspectors taken from the public works force, form the backbone of the emergency snow removal force, to which extra laborers are added. The routine procedure is to divide the men and teams into gangs, each with a foreman at the loading point, to load the vehicles with snow and haul it to the dumps along the river or canal.

At one point of disposal a swing section has been placed in a bridge railing, which allows the bottom of the rail to be swung out about eighteen inches, thus allowing room enough for the snow to slide under the rail and into the river, but still preventing any chance of a team backing through the rail, or men falling overboard. In previous years whole sections were removed from the rail. This was found, however, to be a dangerous practice.

Recent studies made in New York City indicate that snow can be disposed of in the larger sewers by simply opening the manholes and shoving it in uniformly. This method, even when water is used to augment the flow of the sewer, will save three-fourths of the time and over 50 per cent. of the cost of hauling by teams. It is recommended that a survey be made of the conditions in Rochester to determine where such methods can be used to advantage, and that they be tried during the next winter under competent inspection.

When the streets become covered with ice to an extent which is dangerous, it is customary for the sweepers to go to the district head-

quarters, where a quantity of sand is stored, obtain a supply of it in a wheelbarrow or a barrel and to carry it to the crossing or other particularly dangerous points where it can be spread. No attempt is made to maintain sand boxes for public use on the streets. It is stated that one of these was placed on the street some time ago and so much trouble was experienced from the interference with it by children and others that the plan was abandoned.

Such boxes are a great convenience and are used commonly in many cities. Properly constructed, and protected by the police, the interference by children should not be a great factor, especially if the children are interested in the work by the talks proposed in another section of this report.

When the surface of the highway needs sanding, this is taken care of by means of a sand spreader or by hand-spreading from a team, the men using pails or shovels. Dangerous sidewalks such as those on hills are treated in the same way.

In order to have a force of men available, the scheme is suggested of registering, prior to the snow season, all those who wish to be employed. If desirable, these lists can be put in the hands of the police, and arrangements made for calling out men at night to facilitate the work by piling the snow ready for the next day or for work pushing snow into the sewers.

Control.

The routine method of controlling the organization in the business district can be best illustrated by a description of the procedure at the City Hall district headquarters. Here the men report in a room in the basement. The foreman selects those who are listed on the police or charities list first and then takes any others that may be available. Each man in turn walks to a window at one side of the room and gives his name to the time keeper, who records it opposite a number on a pad of paper prepared by him for this purpose. A brass check corresponding to the number against which his name was recorded is handed to the man and he is instructed to go across the room to the counter where the tool man is located. The tool man asks for his number, records it on a pad, hands him the tools which the foreman wishes to have sent out, and makes a record on the pad against the man's number of those which he takes. Each laborer is responsible for the tools given to him and, if not returned, \$1 will be taken out of his pay. When a large number of men are being sent out, the tool keeper is allowed one or more helpers, and it is customary for him to use a code in the recording of the names of the tools on his record. At night

when the men come in they hand in their tools, the tool keeper checks them off his list, and they go to the time keeper where they receive an order for their pay, which on the following day can be handed in to the chief clerk at the central office for the money if they do not wish to work longer. This order is made out on a small piece of blank paper something after this fashion: John Smith, one day on snow, O. K. Signed by the time keeper, or, in the outside districts, by a district foreman, when no time keeper is provided. If the men do not wish for an advance in money and intend to continue work, they do not get any order for pay until their regular pay day when the brass check is used in the place of an order. The brass checks are taken up by the paymasters and later returned to the district headquarters.

This system of control is wasteful of time in getting the men started. The use of a duplicate pay ticket which can be punched for tools out and in and for the time work is started and ended is recommended in connection with the registration cards and celluloid number buttons. The adoption of such a method will mean a saving of at least 75 per cent. of the time now required to get the men out, a reduction in the amount of labor for the officers, and a better check on the work.

Teamsters receive in place of a brass check a ticket which is good for one shift of work. This ticket is collected by the paymaster if they go for their pay early, which is not generally the case, or is handed in to the foreman and goes up with the regular time sheets. The teamsters' tickets are punched by the loading foreman, but not by the dump foreman, for each load after it is loaded.

There is no way to tell from the ticket whether the load was carried to the proper dumping place or not, neither is there any way provided for checking up the work of the loading foreman. All teamsters are paid by the hour. Originally these tickets were also used for the removal of ashes by hired teams not working regularly nor under a squad leader. Each ticket shows the name of the district foreman, owner of the vehicle, driver of the same, whether starting work at 7 A. M., 1 P. M., or at night, the date, and street on which the work was started, and the foreman of the gang loading.

It is recommended that a double ticket similar to that suggested for the laborers be used for the teams. It should be arranged so that the number of the team, its capacity in cubic yards, and the number of loads hauled can be recorded by means of symbolic punches in the hands of the foreman. Both the loading and dump foreman should punch the tickets when the teams are fully loaded or emptied. The ticket can be so arranged that it will show the time loaded and the

time dumped and thus make it possible to check up delays in hauling. If work can be done as cheaply by paying by the cubic yard instead of by the hour, it is better to use that method, as the teamsters will always come with as large vehicles as possible and haul more loads.

To prevent any chance of collusion between officers and teamsters to cheat the city, punches should be changed several times a day by a special inspector who can circulate about the work and keep in touch with the operations. At present no special inspectors to check up the work of the foreman are employed, reliance being placed upon the observation of the higher officers. This is not good practice because emergency snow work is notorious for its scandals and should be watched by a person with no other duties so that the officers may be free to supervise and direct the operations.

On work done by the city forces in cleaning sidewalks or other places at the expense of property owners or contractors, separate squads working under sidewalk inspectors are employed. The labor for this work is furnished by the district foreman to the inspector and the time kept by him, as well as by the district foreman.

When work is done for the railroad company on streets which they are supposed to clean, the time on this work is carefully observed and kept separately so that a statement of cost can be provided for the company. When the railroad company does work for the city, its time is checked up by a special inspector working under the permit clerk at central office. His work will be spoken of in detail in discussing railroad removal.

Inspection.

The police are very active in the inspection of the sidewalks. The police department rules and regulations require that each patrolman shall report in his memorandum book the name of the owner, agent or lessee of premises on his post in front of which there are defective sidewalk conditions, uncleaned streets, or snow and ice on sidewalks. These reports are delivered to the desk officer of the precinct station house, who, upon reviewing them, prepares a report for the department of public works, upon a specially provided printed form. A copy of this report is forwarded to the commissioner of public works through the department of public safety each morning.

Uncleaned walks or uncleaned sidewalks are reported in a similar manner except that in such cases the precinct commander serves a printed notice upon the agent or owner of the property, which notice informs him that, if the condition is not eliminated within twenty-four hours, he will be required to appear in court and be penalized.

The records of the police department in this connection are exceptionally good and make extra inspectors on this work unnecessary.

On the work of cleaning sidewalks for property owners as a penalty for nonperformance, the inspector who acts as foreman, or the foreman in charge of the squad doing the work, makes a report on a special form giving the location, owner, and conditions of the walk cleaned, the names of the men employed, the time they worked and their rate of pay, signing it at the bottom as correct. On the basis of this sheet, a bill is rendered to the property owner, to which it is a practice to add 50 per cent. to cover overhead. If the work is not paid for before the first of the following March, an additional 10 per cent. is added and the charge becomes a part of the tax levy. This work is under the general oversight of the investigator, who under the chief clerk, supervises the work of the sidewalk inspectors.

The prompt enforcement of the law by doing the work and charging the owner is to be commended and Rochester is considered fortunate to have such a provision in force.

Method of Payment.

To facilitate the work of paying off the emergency laborers and to enable men who are badly in need of assistance to obtain money very soon after their work is done, an arrangement is made by which any man with an order from the outside residential districts, or any man who does not intend to continue work and holds a brass number check from the first district, can receive an advance in cash up to the amount of his earnings on the morning of the day following his work. The rule is made by the chief clerk, however, that no one shall be paid until a foreman's time sheets are in and the payroll made up. In order to keep the payroll in regular form, it is customary to fill it in from day to day as is done for regular work and to make the extension at the end of the week. The money is paid from a general fund provided for this purpose. By using the double time ticket and numbered badge the first can be brought under better accounting and auditing control, and the latter can serve as an identification for the owner, and the payment greatly facilitated, as by this method it will not be necessary to wait for the payroll, the man can be paid at once and his badge collected with the ticket as a receipt in full. This is common practice on contract work and can be adapted to city work.

B—Contract Snow Ploughing, and Removal.

Each year, as is the case with contract street cleaning, it has been the practice of the city to call for bids for the ploughing of

the sidewalks to remove the snow or the removal of the same by hand if too heavy for the plough, and, in addition, the care of the gutters during thaws.

The duties of a contractor are set forth in a specification prepared by the engineering department, which requires that work shall continue from the date of the contract until the first of June.

No provision is made by which the contractor is required to sand the walks in case of icy conditions. The results as stated in another section indicate that such a clause should be inserted.

The bids are received for groups of streets in much the same way as bids were received for contract cleaning and the contractor is required to make a bid per lineal foot of sidewalk and longitudinal crosswalk as determined by scaling from the map on file in the office of the department of engineering. All transverse crosswalks and all other work is included in the price bid.

The conditions which must be met by the contractor are those which will be met in any residential district of a city in this latitude. The walks must be cleared before 7 A. M., and, in case the storm continues, the ploughs must be kept going until 11 P. M. In case of thaw, channels must be made to remove the water from the walks into the gutters and slush removed from the walk, either by plough or hand.

It is evident that contracting for such work is a gamble on the weather both on the part of the contractor and the city, in which the contractor generally takes no chances and the city pays the maximum price every year, whether the storms are heavy or light.

Organization and Control of Force.

The organization, personnel, rate of compensation, method of control, inspection, etc., by the contractor on this work is practically the same as on contract street cleaning.

Inspection.

On this work a special inspection force under the chief inspector makes regular inspection of the work in the same way as outlined under contract cleaning. In fact, the same force of inspectors is used on this work.

In the residential districts the public inspection provides through complaints the quickest and most effective method available to the department, and some help is obtained from the police.

It is recommended that, under the proposed reorganization, the regular officers of the street cleaning force in the residential sections be kept in their sections and made responsible for the snow

ploughing inspection as well as for the collection of refuse. This will provide a much better control, as the section foreman will be much better acquainted with the conditions in his section than any one not regularly employed there.

The reporting methods for field work are identical with those for contract street cleaning and the same forms are used.

Results.

The results of the work of ploughing, as far as can be learned, are very satisfactory, although it is not easy to make sure in any way except by inquiry among residents.

The conditions of the sidewalks during icy weather are apparently such as to endanger the citizens, as is indicated by a letter which was received from one of the residents calling attention to the fact that several people known to the writer, and also the writer, had been injured by falls during the past winter. This condition evidently results, especially in the residential districts, through the fact that no special arrangement is made previous to the winter season to cope with such conditions, either by requiring the contractor to spread sand or by ordinance requiring the property owners to do so. In fact, the ordinance as at present worded has a tendency to prevent such work by prohibiting the scattering of ashes on a street.

There is a question whether, with a regular city street cleaning organization employed, it is not better to do the work of snow ploughing with this force, instead of by contract. It is recommended, if by such a change it will be possible to do the work for the same cost or for a less cost, and give more regular work to the city forces and teams regularly hired, that the change be made.

C—Removal of Snow By Railway.

The railway companies are required to remove the snow and ice from their tracks and spread it evenly on the street surface so that traffic can pass over the street without difficulty. In addition they are required entirely to remove the snow and ice from the business streets where car tracks are present in the same way that the city does on the other streets. This work, except at the four corners, is paid for 50 per cent. by the city and 50 per cent. by the railway company and the work done either by the railway forces or the city forces as may be arranged.

The railway snow removing force is controlled by the foremen employed by the railway, usually on maintenance of way. Their labor force consists of their regular men employed through the year and any additional they may require. The rate of compensation paid is

about 19 cents per hour. Teams are employed in the same way that the city employs them and are paid at the rate of 50 cents per hour.

The inspection of the railroad work is carried out by a single inspector under the supervision of the corporation permit clerk in the chief clerk's office. This inspector, as has been stated elsewhere, is appointed by the city and is paid by the railway company direct, the man's name not appearing on the city pay roll. This is true of all corporation inspectors, except the chief inspector. Such practice is not fair to the inspector, nor to the city. He should be absolutely independent of the company he is inspecting. A change in this procedure is recommended so that the city will pay the inspector, and, if necessary, send a bill to the railway company. The inspector above mentioned makes rounds every day while the work is going on and independently takes the time of the forces at work for the railway company. Some help on the inspection of this work is obtained through the higher officers of the department of public works, but not very regular help when the work is heavy.

It is believed that by placing the responsibility for all snow work in the hands of the street cleaning forces, it will be possible to coordinate the work much better and provide much better service.

Success in handling snow in a city depends entirely upon the planning of the work so that every available unit goes promptly to work and all units work in cooperation with as little interference as possible. Contractor, street railway company, and city force should know in advance just where they are to work and what they shall do. This means the planning must be in the hands of one man, preferably the head of the city force cleaning streets. Work should be started as soon as the storm starts and be carried on continuously in the important business sections until cleaned up, or so well in hand that traffic suffers very little interference.

Snow work is emergency work in that it is impossible to know ahead just when it will occur or how much. All available city employees who can help on this work should be trained and utilized, if by so doing the load can be lightened for the men and officers of the sanitary services so that they may continue with their duties without delay.

The total cost to the citizens as a whole is the figure to be watched in this work, as in any other, and it is recommended that each year a statement be prepared to show the results along the lines of the accompanying table for 1914.

It is believed that economies are possible in many places in this work and that, by following out the suggestions contained in this

report and by experimenting with new methods involving the use of the sewers and night work on the main streets, much better results can be obtained than were ever obtained before.

Snow Work.

Removal, city streets		
Labor.	\$ 1,317.69	
Teams.	1,854.50	
		\$3,172.19
Removal, by city force on R. R. streets		
Labor.	13,885.47	
Teams.	10,825.50	
		24,710.97
Dump expenses		2,517.26
Total expenses for city		\$30,400.42
Received from R. R. Company as its share		8,661.59
Net cost		\$21,738.83
Cleaning crosswalks and gutters		8,788.51
Cleaning sidewalks*		891.58
Total snow work (removal)		31,418.92
Snow plowing contract cost* (approximated)		
Snow plowing inspection* (approximated)		43,000.00
Total cost to citizens (approximated)		\$74,418.92
*Paid by local assessments.		

COLLECTION OF REFUSE.

A separation of the refuse from the houses into three classes is required in Rochester, as follows: garbage, ashes, and dirt and rubbish. All garbage is collected under a contract arrangement. All ashes, and dirt and rubbish are collected by the city forces. Trade waste, which may be composed of any of the above materials, is collected, upon request, by the city at the expense of the property owner, with the exception of garbage, which the garbage contractor takes on notice. The separation of ashes and rubbish has only been in effect for a few years. In the past it was collected together and dumped. Now the ashes go to the dumps and the rubbish to the rubbish plant.

Duties and Responsibilities of the Public.

Ordinances promulgated by the common council relating to the storage and care of garbage and other refuse are as follows:

“Every householder must provide three separate receptacles for ashes, rubbish, garbage; and ashes, rubbish, and garbage must not be mingled or placed together in one receptacle.....

Every owner, lessee or occupant of any building, premises, or place of business shall provide.....suitable and sufficient receptacles for the receiving and holding of all garbage that may accumulate from said building.....No such receptacle shall be kept on any sidewalk or in any public place longer than may be necessary for the removal of the contents thereof, and all receptacles designed for the reception of garbage shall be provided with proper covers, and at all times shall be securely closed. Unless kept within private grounds of residences and sufficiently removed from adjoining premises to prevent any offense, the receptacles herein mentioned shall be kept in such places as the bureau may direct. Said receptacles shall be used only for garbage; ashes and rubbish shall be excluded therefrom.

The owner of a tenement house now or hereafter constructed shall provide for said building proper and suitable conveniences or receptacles for ashes, rubbish, garbage, refuse and other matter. (Building code, Section 400.)

Every tenement house and every part thereof shall be kept clean and free from any accumulation of dirt, filth, or garbage, or other matter in or on the same, or in the yards, courts, shafts, passages, areas, or alleys connected with or belonging to the same.

Within the fire limits all movable receptacles for ashes shall be of galvanized iron or incombustible material

No wooden receptacles used for ashes shall be kept within any building or within ten feet of the outside of any building.

No vehicle for carrying offal, swill, garbage, or..... except when actually engaged in collecting such materials, shall stand before any residence, building or place of business; nor shall any such vehicle occupy an unreasonable length of time in loading or unloading or in passing along any street or inhabited place. When not in use, such vehicles and all implements used in connection therewith shall be stored and kept in some place where no needless offense shall be given the public. All such vehicles and all receptacles thereon shall be strong and tight, and the sides shall be so high above the load that no part thereof shall leak or spill."

These ordinances are not specific enough in places as is indicated by the conditions existing on the work. For example, the specification of suitable and sufficient receptacles may have many interpretations. Moreover, the size to be used is not stated.

A—Garbage Collection.

All garbage is now collected under the same contract that provides for the disposal of garbage. Both functions will, therefore, be treated in another section under the title "Garbage Contract Collection and Disposal."



Unsuitably and ill adapted containers used for ashes and refuse.

B—Collection of Ashes, Street Dirt, Rubbish, and Trade Waste.

The present system of collection by city forces includes all kinds of refuse except garbage and no charge is made to the property owners other than that incident to the tax levy, except in the case of trade waste, which is removed by the city at the expense of the persons purchasing the same. Some trade waste is removed by the private collectors, but in this study no attention was paid to it inasmuch as the city was providing the same service.

Duties of the City Force.

The duties of the city force under the present policy are to collect from the yards all refuse except garbage which is in proper receptacles, to carry it to the curb, to place it on the collection vehicles with as little nuisance as possible and to transport it to the place of disposal.

Collections of ashes are now made in the business sections every day throughout the year, and in the residential sections they are collected once a week in the winter and once in two weeks during the summer.

Rubbish is collected daily throughout the year in the business sections, and once a week in the residential sections, no change being made between summer and winter in this case.

Special provisions are required for collection of trade waste in quantity and to facilitate the proper collection of street litter from the public receptacles.

In the collection of street sweepings, the work must be made to conform with the work of the cleaning organization.

Conditions to Be Met.

As is to be expected, the conditions which the forces must meet in performing their duties depend upon the character of population or business, but many unnecessary conditions are met due to poor enforcement of the laws or lack of cooperation on the part of other governmental agencies, and especially on the part of the public themselves.

A lack of proper containers, containers absolutely unfitted for such use, insufficient containers, unsightly containers or over-heavy containers were observed in many places. These all tend to make the work of the force slower, more dangerous, harder, and cause a considerable nuisance. They are generally the result of carelessness. Old boxes and wooden barrels with poor hoops cannot be considered proper containers. (See photograph.) They often break in the handling,

spill the material on the sidewalk or street, and otherwise become nuisances. Moreover, if such receptacles are carried away by the collectors, complaint is quickly made, and their return demanded.

In other instances, receptacles so heavy that three men are required to lift them have been reported, and in still others, the refuse is stored in bins and the city forces are expected to remove it.

None of the above conditions should occur and steps should be immediately taken to secure the hearty cooperation of the public, the sanitary inspectors of the department of health, and the police in stopping such abuses. It is not a thing which the men in the department forces will complain of, for it makes ill-feeling among the people from whom they collect.

New ordinances should be passed setting definite standards for receptacles which should everywhere be enforced. If receptacles are not what they should be, the material should not be removed or the collectors should be allowed to take the receptacles away.

In some sections of the city very little care is observed in the separation of rubbish from ashes as is evidenced by the quantities of paper, cans, etc., arriving at the dumps in the ash loads. It is understood that the conditions were much worse before the rubbish teams were sent ahead of the ash teams, as the ash collectors often loaded rubbish to get a quick light load.

The quantity and quality of refuse collected from the various districts, its character and the length of haul to the nearest dump, present the main problems the force must meet. In general, this is fairly uniform in character, but during the spring large quantities of brush trimmed from trees and also yard rakings are put out for the collectors. The brush must be burned to provide for satisfactory disposal, yet, on account of the inability of the incinerator to handle it easily, it is now taken to the dumps on the ash wagons, which are not nearly so well equipped for handling this bulky material as the paper wagons. The brush fires at the dumps are not to be desired. It is recommended that some provision be made for burning this material at the incinerator where the heat can be utilized and that the rubbish wagons be used for the collection thereof.

Trade waste, which comprises any refuse which is the product of a business operated for profit, is not easily differentiated from other refuse and the quantity is not generally regular from day to day or week to week. Some seventy thousand barrels were collected in 1914. It is believed that an attempt should be made to set forth in an ordinance just what shall be considered as trade waste.



Type of ash wagon used in Rochester. A canvas cover is provided to be drawn over a pole running lengthwise over the top of the wagon.

Equipment.

The equipment used for ash collection consists of two-horse bottom-dump wagons holding five cubic yards. They have high ends and a pole running along the middle of the wagon on top of the ends, over which a loose canvas may be spread to cover the load. Practically all of the wagons of this type now in use are Watson wagons owned by the team owners, but purchased through the agency of the city so that they may be alike.

It is believed that the owning of equipment by the city and the requirement that it shall only be used on ash collection is preferable to the present method which places the city slightly under obligation to the team owners. This would allow the city to obtain bids for the furnishing of teams and drivers and enable it to control its use and appearance of equipment more easily.

The loose covers now used are not satisfactory in preventing dust or in appearance. Either a metal cover with sliding doors such as can be purchased on the market, or a well painted canvas cover is recommended. The latter type is usually supported on bows and by strips in the canvas which is fastened to the pole at the top allowing one side at a time to be opened.

For rubbish collection the city owns and furnishes specially built wagons holding fifteen cubic yards. They are now built at the city shop and are especially well made of the best quality lumber, heavy iron where necessary, and they are particularly well adapted to the work.

A similar cover to that suggested for the ash cart cannot be used on this wagon on account of the method of unloading, and is not quite as necessary, but some sort of protection should be provided to prevent the wind from blowing paper about. (See photographs).

All city owned equipment is repaired, overhauled and painted regularly at the shop and was in excellent repair.

Work Methods and Procedure.

The method of collecting refuse now in use includes the carrying or trucking of the receptacles containing the ashes or rubbish from the rear of the homes to the curb, and loading thereof into either a paper wagon or ash wagon, and the hauling of ashes to the land dumps and the rubbish to the rubbish plant commonly known as the incinerator.

The trucking usually starts at 6:30 A. M. and the loading at 7 o'clock, so that the teams will not be delayed. The returning of receptacles follows the loading as closely as possible, so that the nuis-

ance of the sidewalk ornaments common to many cities is entirely eliminated.

The ash wagon drivers are given a red ash ticket by the squad foreman, as soon as their wagons are loaded, which they hand to the dump foreman in exchange for a blue ticket which constitutes a receipt for the load hauled and the basis on which the team owners are paid.

The rubbish wagon drivers receive a similar ticket, white in color, which is presented at the rubbish plant in exchange for a pink ticket that is returned to the district foreman, as these teams are paid by the hour.

It is believed that daily team ticket in duplicate could be used to advantage on this work which would give the whole story of each team's work, preferably, as much as possible, by the use of punches to avoid use of pencil and simplify the field report from the foreman.

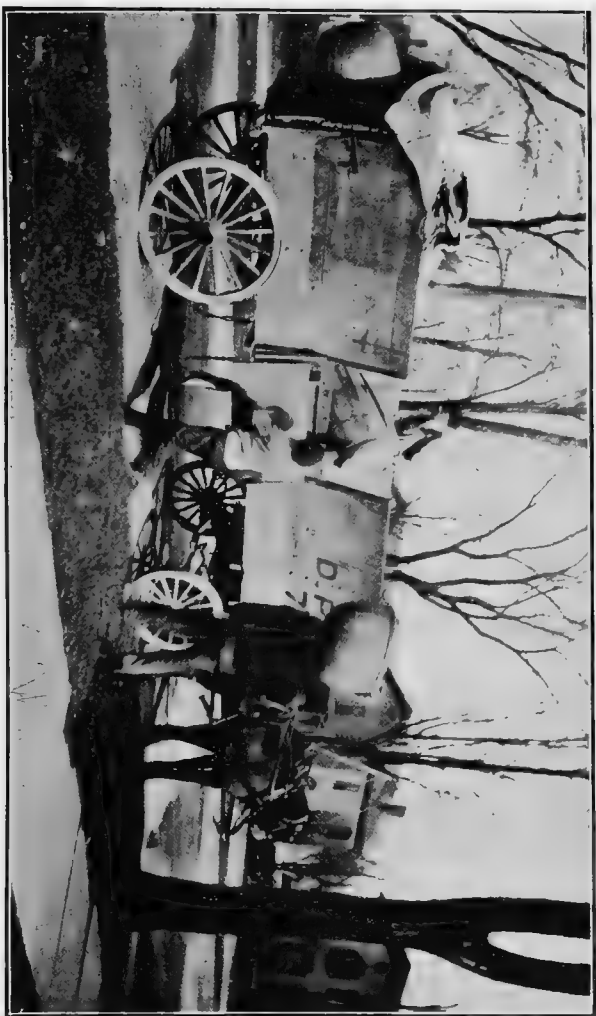
It is customary to lay out the work so that it is completed on Thursday or Friday, and an attempt is made to give extra time on street cleaning to the drivers on Saturdays. A reduction in the collection force is made in May and an increase in October to meet the increased collection in the winter.

It is recommended that as far as possible the work be laid out to give the collection force more continuous work for the whole week using a reserve of extra teams and men to fill up the shortages, if necessary borrowing them from the street cleaning force for a day or from other sections.

In collecting ashes, rubbish, or trade waste from the schools, hospitals, or factories where regularly large quantities occur, special pick-up teams are used, as is also the case in collecting from the rubbish barrels. This method allows the regular force to work in a more efficient way as the conditions which they generally meet are nearly uniform. If these large quantities were met along their routes, full loads would be obtained some time and part of the crew would be waiting for the remainder.

The use of an automobile truck for this service is urged, as the loads can be quickly obtained and much more easily handled.

In removing trade waste the producer pays for its removal with tickets which he buys from the department, each one of which costs three cents and provides for the collection and disposal of one barrel of refuse. These tickets are handed to the driver or squad foreman who gives them to the district foreman who keeps them. They should be turned in to the central office every day with the foreman's report.



Type of rubbish wagon used in Rochester.

Control of Force.

In general the work of the force is very satisfactory and the collection seems to be systematic and thorough and, with the exception of a lack of precaution to prevent dust, which is largely a matter of equipment, is to be commended.

The methods of inspection available in addition to that which must be made by the officers directly in charge are:

- 1—By the head supervising officers.
- 2—By special inspectors.
- 3—By the police.
- 4—By the public.

Of these methods only two are actively in use in Rochester, the first and fourth. In fact, the main dependence is placed upon the fourth which, through complaints, is always a very active and effective method and more responsive to the shortcomings of the force than any other.

Costs.

It is not easy to determine the cost of carrying the receptacles in and out of the yards, but an analysis of costs for one week in February, 1914, for District 2 showed that the total cost for collection was as follows:

Labor		
Truckers and returners	\$130.00	
Loading ashes	63.36	
Loading rubbish	40.00	
		\$233.36
Teaming		
Ashes	\$198.30	
Rubbish	50.40	
		248.70
		\$482.06
Cost of carrying receptacles to the curbs and back...		130.00
		\$352.06
Cost of collection at curb and removal per cent. expense due to carrying the receptacles to the curb and back		27%
<i>Cost of Collection 1914</i>		
Field supervision		
Superintendents half time	\$1,600.00	
District foreman half time	5,100.00	
Squad foreman full time	7,943.46	
Pay station expense half time	2,865.34	
		\$17,508.80

Ash collection			
Labor	\$65,354.03		
Teams	76,832.15		
			\$142,186.18
Rubbish collection			
Labor	\$22,107.64		
Teams	26,080.10		
			\$48,187.74
Total cost collection.....			\$207,882.72
Per cent. supervision, etc.....			8
Per cent. labor and teams.....			92
Quantity of trade waste removed approximately 70,000			
barrels at 3c.....			2,100.00

Conclusions.

It is believed that the present system of collection should be continued without much change. With careful study some ways of reducing the number of men may be found. The most hopeful way available seems to be in obtaining the hearty cooperation of the people so that they will place their receptacles in convenient locations and provide easily handled receptacles so that the time of the collection force will not be wasted.

As is true in all the sanitary services, very considerable improvements can be made if the work is carefully planned for the forces by an experienced officer working in conjunction with the field officers.

The time will soon come when it will be necessary for the city to own its own horses or other motive power and the practice of hiring teams be abandoned. With this in view, very careful study should be started at once to determine whether it will be advisable to continue with the use of horses or to change to automobile collection so that no mistake will be made in building stables and buying horses which will soon be discarded.

REFUSE DISPOSAL AND UTILIZATION.

The main requirements are that the refuse shall be separated into three parts, garbage, ashes and rubbish. This separation is not yet satisfactory and a campaign should be started to improve it.

The easiest way is to interest the children in the schools and through them the parents. A card for general distribution on which the various classes of wastes are defined has been once used and should be used again—perhaps printed in several different languages and designed in such a way that it will be retained for reference. The placing of the locations of fire alarm boxes on the back might serve this purpose.

The present method of disposal may be classified as follows:

A—Ash and refuse dumps.

B—Rubbish plant.

C—Garbage contract collection and disposal.

Each of the above named methods will be treated separately in detail.

A—Ash and Refuse Dumps.

Prior to 1912, the city was in the habit of collecting all ashes and rubbish together. This material was carried to dumping places wherever available. As a result, many acres of land and many deep holes, some as much as fifty feet deep, have been filled with this material. As is a common experience where similar work is done in other municipalities, many fires occurred at the dumps, or the refuse was systematically burned and the smoke from the fires or the burning dump caused serious discomfort, nuisance, or danger to nearby residents. Early in 1912, as a result of the building of a rubbish plant, a separate collection of rubbish and ashes was enforced. This has to a large extent removed the rubbish and combustible material from the dumps, although not entirely.

Conditions to Be Met.

Three general conditions must be taken into consideration by the department in the selection and use of dumping places. First, the location of the dump must be such that it is as near to the source of the material to be disposed of as is possible. Second, the material must be such as to cause no offense to the owner of the property or the owners of the property nearby. Third, the work which the city must do on the dump after the material has been placed there, in order that it shall be left in a condition satisfactory to the owner of the property, must not be excessive.

At the present time, especially during the spring of 1915 when this study was made, the separation of the paper from the ashes was not as complete as it should have been with reasonable good cooperation on the part of the people. Considerable quantities of tin cans, bottles, old iron, etc., sometimes appear which should go to the rubbish plant. These are brought by private collectors in many cases, but it is thought that a more thorough cooperation with the department on the part of the citizens will, to a large extent, eliminate these difficulties. Much brush is brought to the dumps and this makes it impossible to form a solid dump unless it is burned, in which case, without special devices or arrangements, the fires cause the same

troubles that were experienced when the paper and rubbish were previously dumped with the ashes, a condition which should not be allowed to exist. If no arrangement can be made to care for the brush at the incinerator, a properly protected burning hearth should be provided at each dump consisting of a concrete platform or some other inexpensive device to prevent the spreading of the fire and enable the material to burn with the minimum of smoke.

Organization and Control of Force.

It is believed that with careful supervision on the part of the district superintendent under the proposed reorganization, section foremen should not be responsible for the operations at the dumps, and it is recommended that all dump reports go to the district superintendents.

Personnel.

The tallymen or dump foremen are many of them veterans, old, or partially crippled men, who are unable to do any hard manual work. Others are comparatively active and, in some cases, young men. As compensation for their work on the dump, these men receive from \$1.75 to \$2.00 per day. On small dumps it is recommended that working foremen be employed.

Records and Reports.

The daily dump report or tally sheet is sent directly to the central office. It is generally signed by the tallyman, although space is provided for the signature of the district foreman. Each report gives the number of loads without regard to their size or the extent to which the wagons are loaded, and no provision is made for recording the weights of the loads in case they may be available.

It is recommended that, if it is not possible to weigh the loads delivered at the dump, their size be approximated, and that the dump report always go directly to the district superintendent for his information.

Results.

The results which were observed seem to be variable. At some of the dumps the appearance was much better than at others, even though the type of material and labor available was similar. This of course, can partially be accounted for through the normal differences between the foremen or laborers on the dumps. But in some cases the deficiencies appeared to be caused by lack of systematic work. A system of instruction for foremen should be established

and followed by a thorough regular inspection by a responsible supervising officer.

In order to eliminate the unsightly conditions at some of the dumps caused by the character of material collected by the ash teams, two things will be necessary—

1—Hearty cooperation on the part of the householders in the separation of refuse.

2—More careful elimination of illegal material by holding the collection force responsible if collected.

The department heads realize the above facts but do not feel like enforcing the latter requirements when the collectors get so little help from the residents as at present, on account of the difficulties which would be experienced by the employees of the department in carrying out the work properly.

Observation of the old fills which were made some years ago indicates that the work has been well done and, while the fills continue to settle for many years and do not provide especially good foundations for heavy structures until thoroughly compacted, yet the result has been beneficial to the community through the filling of unsightly holes, wet places, and low lots. Such work has been especially helpful, it is understood, to the health department in eliminating some unsanitary spots and the elimination of mosquito breeding places.

It is recommended, however, that a study be made to determine whether it is not worth while to sift the ashes and recover the 20 to 30 per cent. of unburned coal which is available. This coal has a very definite value.

Costs.

The cost of disposal at the dumps is approximately as follows:

	1913	1914
Labor at dumps.....	\$13,705.00	\$12,857.92
Loads received	88,217	82,215
Cost per load.....	\$0.155	\$0.156
Approximate cubic yards received.....	364,268	369,967
Cost per cubic yard approximately.....	\$0.038	\$0.035
Approximate tons received.....	173,239	174,378
Cost per ton approximately.....	\$0.079	\$0.074

The figures were based upon the weight of a few loads:

1913.....	3,927 lbs. per load
1914.....	4,242 " " "

It is to be noted that the weight of the loads has increased probably because of the elimination of paper from the same, by more careful

separation of the refuse and by sending the rubbish wagon ahead of the ash wagon.

B—Rubbish Plant.

A plant for the burning of the rubbish was built in 1911, and put in operation early in 1912. It included, in addition to the burning or incineration, a provision for the reclamation of the valuable portions of the rubbish.

Conditions to Be Met.

The conditions which must now be met by a rubbish plant in Rochester are as follows: It must handle all the rubbish from a population estimated to be about 240,000 consisting of paper, wood, leather, rags, old clothing, bedding, shoes, bottles, broken glass, empty cans, metal scrap, and other discarded trash which is not placed in the ash or garbage can. This material is collected daily from the business portion of the city throughout the year, and once per week from the residential section.

In addition to the above mentioned material a large quantity of rubbish classed as "trade waste" also finds its way to the plant. This material may be defined as the rubbish from the manufacturing plants, power houses, business buildings, large stores, warehouses, hotels, restaurants, etc., or in general, the rubbish from any place where it is produced in the regular course of a business conducted for profit. In 1914 the following amounts and classes of rubbish were handled by the plant:

Total weights received.....	10,392 tons
Material per 1,000 persons.....	43.3 "
Total valuable portions reclaimed.....	3,146 "
Per cent. reclaimed.....	30.3%
Material reclaimed per 1,000 persons.....	13.1 tons

Plant Equipment and Procedure.

For convenience the discussion of the rubbish plant will be classified under four heads:

- (a) The plant as a whole.
- (b) Unloading and storage section.
- (c) Sorting and baling section.
- (d) Incineration section.

(a) The plant as a whole—



Material still burning after it has passed through the rubbish plant.

Date erected	1911
Contractor	Decarie Incinerator Co.
Type	See details of divisions of plant
Rated capacity	6000 cu. yds. of rubbish, other than garbage and ashes, per day
Rated storage capacity	1,800 cu. yds. of rubbish without requirements for labor to handle same, except in unloading
Building size	Approximately 55 x 200
Foundations	Concrete
Floors	Reinforced concrete
Walls	Brick
Roof	Steel trussed covered with tile
Stack	Radial brick, 125 ft. x 4 ft. 6 in., lined for 25 ft, with fire brick
Lighting	By electricity, 100 lamps, current purchased at 2c per K. W. H.
Power	Steam generated by plant and by electricity purchased
Quality of material handled	See mechanical analysis and results of operation of plant
Conveyor	Roller chain belt, with steel leaves, operated by a 10 H. P. D. C. 230 volt motor
Heating	By steam from incinerator
Weighing devices	5 ton wagon scales at entrance to building

It is noted that no test was required to show that the plant could dispose of the specified quantity of material in a day and that up to the present time it has never been necessary to operate it to its full capacity.

(b) Unloading and storage section—

The operation of unloading is conducted in a very efficient way. The work of raking might be made somewhat easier if a similar device to that used in the wagons were used under the stored material to move it forward to the conveyor. The practice of burning a portion of the refuse outside of the building is not proper. It should all go to the incinerator. If too bulky as it arrives, arrangements should be provided for cutting it into smaller pieces which can be handled.

(c) Sorting and baling section—

The following material is now reclaimed:

Paper	Rubber of several kinds
Newspaper	Metals which are sorted into the following classes:
Manila paper	Brass
Charcoal bags	Copper
Flour sacks	Lead and zinc
Mixed paper	Iron
Bags	Pewter
Tin cans	Aluminum
Glass	

Formerly bottles were separated and sold, but now they are broken and sold as broken glass. Shoes also were picked out, but there being no market for them, this is no longer done. The larger pieces of junk which are not valuable are thrown into a bin and later

dropped into a wagon and hauled to a dumping place. The tin cans are the last thing picked out before the material leaves the sorting room. They are thrown on the supplementary conveyor and conveyed to the bin outside the building where they are stored until time for shipment.

The present method of shipping the cans loose in box cars is expensive both as to time in loading and space in the car. It has been suggested that they be baled but objection was raised to pressing the cans flat. It was claimed that the company which buys them cannot remove the tin. Further study may develop the possibility of partially flattening and baling by use of an automatic jaw press or rolls proposed by one of the officers. It is recommended that this matter be taken up with the purchaser and some better way of handling the cans devised.

The combustible rubbish which is not reclaimed passes out of the section on the conveyor to the incineration section where it is burned.

The operations in the sorting and baling section are apparently well conducted, but only by careful supervision can uniform results be obtained. A marked improvement is apparent in the past year over the previous year as the percentage of material reclaimed has increased from 22 per cent. to 30 per cent. of the total material handled. To assist the superintendent in his control over this work, it is recommended that daily or weekly record of the results accomplished be prepared in chart form and placed where it can be easily referred to and any change in the results noted.

The superintendent should keep close watch over the material leaving the room and the engineer should assist in this work by watching the material that comes to the incinerator.

(d) Incinerator section—

This section of the plant contains an incinerator furnace, boilers, and accessories in which, or by which, the nonvaluable combustible portions of the waste are burned, and the heat therefrom utilized in the generation of steam, which is used in the operation of the plant or sold to the Rochester Railway and Light Company. The conveyor from the sorting room rises on a steep incline to a point in the middle of the incinerator room some fifteen feet or more above the top of the furnace where it ends and the material drops into a chute which carries it to an opening at the top of the furnace where it is supposed to slide through automatic doors into the basket grate of the furnace proper. The hot gases generate steam both in the incinerator and in two boilers through which they pass on the way to the stack.



Material still burning after it has passed through the rubbish plant.

The requirements of the service at the present time do not make it necessary to operate for more than eight hours. The practice is to get up eighty pounds of steam pressure on the incinerator in the morning by means of barrel staves and other wood before the other refuse is added.

As soon as the rubbish begins to arrive, it is now found necessary to keep a man stationed on the platform above the furnace to rake the material from the chute into the hopper opening to prevent its clogging the chute. The material falls through the automatic doors directly into the basket grate from which it is stoked continuously on to the burning grates below. Four men work at this stoking, two of them continuously and the other two when not busy raking the partly burned or burned material from the grates into wheelbarrows by which it is carried to dumps along the river where it is finally disposed of. The engineer states that it is necessary to rake out this partly burned material before it blankets the fire, and that the material will not go through the shaker grate easily on account of the amount of metal in it. On the two days when the plant was visited the material taken from the furnace was not in any way thoroughly burned, in fact, many pieces of newspaper which had been tightly folded came out with only the edges and outside portions burned away. The furnace product continued to burn on the wheelbarrows and dump as is indicated by the accompanying photographs taken April 13, 1915.

The feed water from the incinerator and boilers is now either taken from the water mains direct or supplied through an injector. The boiler feed pump, according to the engineer, is not being used because no heater is provided for the raising of the temperature of the water prior to its admission to the boiler, while the injector, through the use of steam in contact with the water, provides this service. It is noticeable on the graphical record of the steam generated by the boilers that, whenever water is supplied to them, the quantity of steam delivered drops perceptibly. It was suggested by the engineer that it would be a great advantage to the plant if a heater were supplied through which some of the steam which is now wasted could be passed, allowing the use of the boiler feed pumps as well as the supplying of the shower baths for the men. He states that there is danger of scalding in the showers because of the possibility of getting live steam in place of hot water.

The quantity of material has been estimated at three and one-half to four tons per hour, or about twenty-seven tons per day, or 350 cubic yards per day actual burning. This indicates that the plant

can come up to capacity guaranteed if operated twenty-four hours per day.

No record of the total quantity of steam generated by the incinerator is possible, but when the refuse is especially dry and combustible a very large amount goes to waste through the safety valves. When the steam pressure is below 110 pounds, there is seldom any steam delivered to the Railway Company, as their normal pressure is above this figure. In fact it was intended that the steam be delivered at a pressure of about 150 pounds. The meter causes considerable trouble and is out of order quite often. In fact, on the first day of the writer's visit, it did not record any steam at all, probably because of being out of order.

Organization and Control of Force.

Reorganization.

As a first step in reorganization, it has been recommended:

1—That the superintendent of the rubbish plant be made responsible to the deputy commissioner in common with the other officers connected with the sanitary services. (See chart SS-2).

2—That the superintendent be made responsible for the operation of the plant and require that all records and reports be verified and approved by him before they are sent to the contract office. He does not do this now although he should do so. It will enable him better to administer the operations of the plant. (See chart SS-2).

3—That the clerk submit all reports to the superintendent and be responsible only to him.

4—That a working foreman be placed in charge of the raking and baling and the clerk in charge of unloading and shipping. (See Chart SS-6).

Reports and Records.

In general the records are good except in the case of the production record in which no record is made of any of the products of the plant except salable material. In order most effectively to administer the operation of such a plant, it is necessary to know where the residue of unsalable material goes, and it is recommended that in the future a careful record of the weight of ashes and unsalable junk be separately and carefully kept.

It may be helpful if the team record be made by means of a ticket which will show the district and section from which the driver is hauling, the time the load was started, the time finished, and the time unloaded, the latter to be punched by the record keeper. The

ticket would then represent a day's work for one team, show where delays occur, and somewhat simplify the procedure.

In addition to the reports from the rubbish plant, another filed report is received at the central office from the Rochester Railway and Light Company, which gives the amount of steam delivered to that company through the steam meter. The report is in the shape of a monthly statement giving the total amount of steam delivered, and the amount due the city in money. This statement is based upon meter readings or measurements of the meter charts, which are taken by a representative of the Railway Company, and is not itemized to show the daily or weekly quantities. Up to the present time, their measurements or readings, on which the statement is based, have never been checked by a city employee, although the chief clerk has been asked to do this by the Railway Company. The chief clerk states that he does not know how to obtain a reading from the meter or chart and that his time has been so well taken up by his other duties that he has neglected to do this, which is undoubtedly true. The charts are in the possession of the Railway Company, as the meter is owned by them, and it is customary for their meter reader to remove them and take them to the railway company's office where they are planimtered.

A complete record was secured from the company showing the daily production of steam since the start of the plant, and their engineer stated that he saw no reason why it should not be possible for the record keeper at the plant to be present when the charts were removed and to measure the same if a proper planimeter were secured by the city, in which case the company would make an independent measurement.

It is recommended that such an arrangement be made, so that a record of the steam output of the plant shall be currently in the hands of the superintendent and central office for checking the company's statements and to provide a proper control over the plant operation. An alternative might be to check the company's record against the quantity of water used and the amount of material burned.

At present no record is made of the water used at the plant, there being no meter provided. This is a situation which should not be allowed to continue. Water, like any other necessary supply, costs something, and if the cost of operating the plant is to be known it must be included.

The central office control of the street and sewer bureau over all the operations at the plant, except those of the incinerator itself,

is very good. It is recommended that in the future a regular monthly or quarterly statement be prepared which shows the operating expenses of the rubbish sorting plant and incinerator separately, classified somewhat as follows:

Operating Expenses	Rubbish Plant	Incinerator	
Salaries.	..	..	..
Labor.	..	..	..
Supplies.	..	..	..
Light and power.....	..	..	..
Water	..	..	..
Telephone.	..	..	..
Insurance.	..	..	..
Repairs.	..	..	..
Total expense.	..	..	..
Revenue.	..	..	..
Profit or net expense.....	..	..	..

Unit Costs	Sorting and Baling Plant	Whole Plant	Incinerator
Gross per ton received at plant.....	..	..	..
Gross per ton handled each station.....	..	..	..
Gross per ton reclaimed.....	..	..	..
Total cost per ton received for reclamation and disposal.	..	..	..
Revenue per ton received at plant.....	..	..	..
“ “ “ handled	..	..	..
“ “ “ reclaimed.	..	..	..
Total revenue per ton received both functions	..	..	..
Net cost per ton received at plant.....	..	..	..
“ “ “ “ handled.	..	..	..
“ “ “ “ reclaimed	..	..	..

Physical Results.

The physical results from the installation and operation of the rubbish plant have been the practical elimination of the paper and a great deal of the other rubbish from the dump, more sanitary disposal thereof; the reclamation of large quantities of valuable material—as much as 3 per cent. of the total handled; and an improvement in the appearance of the city through the elimination of the unsightly portions of the refuse from the dumps. A statement by the chief clerk of the results for 1913-1914 is given below. It is to be noted that the amount of material delivered to the plant has increased over 20 per cent. in 1914 over what it was in 1913, and that the percentage reclaimed has increased 36 per cent. This is probably due to the more careful and thorough separation of the rubbish from

the ashes, through the increased attention given by the field collection force, and to the more thorough picking and sorting at the refuse plant, all of which indicates an increase in efficiency.

	1913	1914	Increase over 1913
Total weight received, tons.....	8,661.76	10,391.63	20%
Total weight reclaimed, tons.....	1,935.67	3,145.87	62%
Per cent. reclaimed.....	22%	30%	36%

The amount reclaimed during the above years consisted of the following:

	—1913—		—1914—	
Paper	2,947,266 lbs.	.1701%	4,966,414 lbs.	.2390%
Rags	132,860 "	.0077%	291,640 "	.0140%
Tins	455,290 "	.0263%	568,356 "	.0273%
Bottles	132,381 "	.0076%	181,288 "	.0087%
Glass	178,990 "	.0103%	232,622 "	.0112%
Metal	13,483 "	.0008%	38,648 "	.0019%
Rubber	1,396 "	.0001%	2,924 "	.0001%
Shoes	9,674 "	.0006%	9,850 "	.0005%
Total reclaimed.....	3,871,340 "	.2235%	6,291,742 "	.3027%

The quantity of material which was burned in the incinerator cannot be exactly determined inasmuch as the unsalable junk which is hauled away from the plant and dumped is not weighed. It is estimated that fifteen two-horse loads are hauled away every week, and on the basis of a single load of one thousand pounds weighed on May 21, 1915, during the period of this survey, this represents a total weight per year of 390 tons. Adding this weight to the weight of material reclaimed and subtracting the total from the total rubbish received at the plant, the following result is obtained, which on the basis of the above test represents approximately the weight of material passing through the incinerator per year.

	Tons	Tons
Total weight received.....		10,391.6
Weight unsalable junk.....	390.0	
Weight material reclaimed.....	3,145.9	
Total tons not burned.....		3,535.9
Material passing through incinerator.....		6,855.7

The furnace room results leave much to be desired in several ways. First, the material does not feed into the furnace automatically, as the design originally intended it should. This necessitates the employment of a man in the top of the room where it is especially hot, dusty and smoky. The conditions are so bad in the summer time that few men are able to stand the work for long periods at a time.

Second, the material is not completely burned, and it is possible for material to be raked out without having passed through the fire for a long enough period to sterilize it. Third, the stoking and removal of partly burned material from the grates to wheelbarrows brings a large amount of dirt on to the floor, and brings smoke into the room. Fourth, the nuisance of a burning dump is not eliminated, although it has been reduced very greatly. Fifth, the apparent low temperature of combustion, and the lack of complete combustion, make it possible for odors to pass through the furnace without being eliminated, although this trouble will be but seldom experienced in such a plant.

(a) Equipment defective—

When the incinerator was built it was believed that high cost of repairs on the furnace could be avoided by the use of the steel water jacket instead of the brick, and that just as good results could be produced. The repairs have so far been low but the results obtained have not been as satisfactory as was anticipated. The consulting engineer states that he now believes that when a second unit is added it should be a brick lined unit.

The results obtained by the incinerator furnace, as indicated by the light orange color in the smoke from the stack, are not satisfactory. It is evident that the combustion is incomplete. The continuous stoking by four men and the need of pulling partly burned material from the top of the grate on to wheelbarrows cannot be considered satisfactory. In fact, the material coming from the incinerator, which should be in the shape of ash with very little unburned material is not now anywhere near completely burned. It is easy to pick pieces of newspaper out from almost any wheelbarrow load which are only charred on the outside, pieces of old shoes, and even pieces of wood which are only partly burned, and the remainder is largely in the form of charcoal. An ordinary boiler furnace carefully fired should give much better results than are now being obtained in this furnace, and very much less ash should be produced.

The poor combustion is probably due to the cooling effect on the fire of water jacket and grate and the continuous stoking which keeps four doors in the furnace open all the time, admitting cold air above the fire in spite of the forced draft. As one engineer has said, it is very hard to cook eggs in an ice box, so it is hard to get the hot fire needed to properly burn rubbish in contact with cold water

(b) A second unit needed—

It is recommended that a second unit be added to the furnace equipment, which shall be a plain fire brick furnace of simple design pro-

vided with a large combustion chamber and connected to the present boilers. Such a unit can be located in the space available in the furnace room and is badly needed, as no reserve is available now in case an accident or the need for repairs should put the present unit out of commission.

When the new unit is in place the present unit should, if possible, be remedied to make it operate more efficiently or should be kept in reserve for breakdown operation and discarded later, if it is not practicable or economical to make the required changes. It is believed that, by removing the basket grate and lining the furnace with fire brick, the need for excessive stoking will be eliminated and more heat will leave the furnace and reach the boilers. Less steam will then be wasted through the incinerator safety valves and the defect in design which does not allow steam to be produced at a high enough pressure to be sold.

Sanitary Results.

The sanitary results obtained through the operation of the rubbish plant as compared with those experienced at the dumps, prior to the change, cannot be otherwise than gratifying to those acquainted with the conditions, or those living near the dumps, because the nuisances of dump fires have been greatly decreased and many unsightly fills have been eliminated. The storage, picking and baling sections are operated in a very satisfactory way.

Financial Results.

The financial results from the operation of the rubbish plant may be divided into two parts:

1—Results from the operation of the rubbish sorting plant as distinct from the incinerator.

2—Results of the operation of the incinerator.

This classification is made so that it can be clearly seen how much it costs to dispose of, and how much revenue is received from the unsalable portions through the medium of the incinerator.

Four tables have been prepared which show approximately the results obtained. The figures for cost of incineration are conservative and those for the rubbish plant rather high inasmuch as the cost of the water is not included in the incineration and the whole cost of unloading and raking is charged against the rubbish plant.

Table No. 1 shows the construction cost in detail as far as it could be secured.

Table No. 1.

Land, first purchase	\$ 7,141.00	
Land, second purchase	15,000.00	
		\$22,141.00
Preliminary expense		451.61
Buildings, equipment, etc.		
Contract cost	\$78,103.67	
Shed and platform	805.92	
Roadway and paving	395.32	
Electric service and pipe changes	110.45	
Sprinklers and plumbing	261.89	
Gratings	435.83	
Ventilation and dust collectors	309.10	
*1-2 induced draft fan	1,255.13	
Conveyor and motor (cans)	351.00	
Steam line	110.00	
Furniture and tools	199.34	
Armatures and repairs to machinery	180.00	
Total cost		\$82,517.55
Inspection		933.00
Total cost to January 1, 1914, charged to capital		\$106,043.16
*1-2 cost paid by contractor.		
Construction cost January 1, 1914 (as charged)		\$106,043.16
New construction guards to machinery, 1913 (charged to operation)	\$80.73	80.73
Actual total cost for January 1, 1914		106,123.89
1914 betterments paid from operation		
Heating packing room	230.98	230.98
Total cost construction January 1, 1915		\$106,354.87

Table No. 2 shows the details of the operating expenses during the year 1914.

Table No. 2.*Picking, Baking, Baling and Shipping*

Labor		
Pickers	\$5,643.54	
Rakers	2,178.48	
Balers	1,522.94	
Unloading	1,152.65	
Sorters	459.91	
Loading	689.02	
Cleaning	28.00	
Teaming	379.20	
Clerk	131.00	
Labor repairs	27.80	
		\$12,212.54
Salaried Employees		
Superintendent, full time	1,500.00	
Clerk	852.66	
		2,352.66

Supplies

Miscellaneous	103.33	
Ties for bales	522.65	
		625.98
Light and power 50 %.....	151.00	
Telephone 50 %.....	24.80	
Repair buildings 50 %.....	119.91	
Miscellaneous 50 %.....	125.13	
		420.84
Total for rubbish plant.....		\$15,612.02

Incineration

Labor		
Firemen		5,172.98
Salaries		
Engineer	1,200.00	
Asst. Engineer	1,020.00	
		2,220.00
Supplies		
Tools	54.86	
Packing	18.03	
Coal	15.73	
Oil	53.90	
		142.52
Light and power 50 %.....		151.00
Insurance	31.30	
Telephone 50 %.....	24.80	
		56.10
Repairs building 50 %.....	119.91	
Miscellaneous 50 %.....	125.13	
		245.04
Total for incineration		7,987.64
Total for disposal.....		\$23,599.66

Table No. 3 shows the total annual expense to the city of Rochester for the operation of the plant classified under the heads of:

Fixed charges.

Operating expense.

Total expense.

Revenue.

Net expense.

This table shows that it costs the city \$2.82 per ton to dispose of its refuse, but that a revenue of \$1.69 per ton is derived from the sale of the product of the plant, which means that the net cost to the city is \$1.13 per ton.

This cost should be further reduced both by decreasing the operating expenses and increasing the revenue, if the recommendations of this report are acted upon.

Table No. 3.

Note: Interest computed at 4½% and sinking fund charges at 1%.

Fixed Charges

Interest on \$106,123.89.....	\$4,775.58
Sinking fund on \$100,000.....	1,000.00
Total	\$5,775.58

Operating expenses

Supervision (salaries).....	4,572.66
Labor (wages).....	17,385.52
Total personal service.....	\$21,958.18
Light and power.....	302.00
Insurance	31.30
Telephone.....	49.60
Supplies	768.50
Repairs (less betterments).....	490.08
Total operating expense.....	23,599.66
Total expense 1914.....	\$29,375.24

Revenue

Rubbish reclamation	17,150.83
Incinerator steam.....	441.18
.....	17,592.01
Deficit, or yearly net expense.....	\$11,783.23

Unit Costs

Tons received....	10,392	Tons reclaimed	3,146
Tons consumed...	6,856	Tons junk unsalable	390

Cost per ton handled (10,392)

Fixed charges	per ton	\$0.556
Operating charges	" "	2.265
Total gross cost	" "	2.821
Revenue	" "	1.69
Net cost	" "	1.13

Table No. 4 shows the annual expenses segregated to show the expense of operating, the revenue returned and the net cost of rubbish plant separate from the incinerator, assuming that the incinerator was only constructed to dispose of the residue from the rubbish sorting plant. These figures show that the rubbish plant is practically paying its expense while the incinerator causes the high cost of operation, which confirms the belief that greater economies can be produced in the furnace room than in the rubbish sorting plant.

Table No. 4.

Note: Estimating investment as 50% for rubbish plant and 50% for incinerator.

<i>Fixed Charges</i>		Rubbish Plant	Incinerator	
Interest.	\$2,387.79		\$2,387.79	
Sinking fund	500.00		500.00	
Total.		\$2,887.79	\$2,887.79	
<i>Operating Expenses</i>				
Salaries.	2,352.66		2,220.00	
Labor.	12,212.54		5,172.98	
Supplies	625.98		142.52	
Light and power.....	151.00		151.00	
Telephone	24.80		24.80	
Repairs Building	119.91		119.91	
Miscellaneous repairs	125.13		125.13	
Insurance			31.30	
Total.		15,612.02	7,987.64	
Total expense 1914.....		18,499.81	10,875.43	
Revenue		17,150.83	441.18	
Deficit or Net Expense.....		\$1,348.98	\$10,434.25	
<i>Unit Costs</i>		Rubbish Plant	Incinerator	Whole
Per ton handled by plant—gross.....		\$1.775	\$1.045	\$2.82
As a whole—net.....		0.13	1.00	1.13
Per ton handled each section.....		0.13	1.52	
Per ton reclaimed.....		0.425		
<i>Revenue</i>				
Per ton handled whole plant.....	1.645		0.045	1.69
Per ton reclaimed	5.45			5.59
Per ton burned.....			0.065	

The revenue received from the picking and sorting of the rubbish was derived from the sale of the materials reclaimed at the following prices:

<i>Paper</i>	Per 100 lbs. f. o. b. Rochester	
	First 5 months 1914	Remainder of year
News	\$.30	\$.27½
Mixed	.25	.22½
Manila.	.60	.50
Flour sacks	1.75	1.75
Charcoal bags	.75	.75
<i>Rags</i> —\$.60 per 100 lbs. f. o. b. plant		
<i>Glass</i> —Broken, \$.25 per 100 lbs. local factory		
<i>Bottles</i> —formerly brought 3 to 12 cents per dozen		
<i>Rubber</i> —f. o. b. local purchaser:		
Rubber shoes	\$0.01	per lb.
Overshoes.	0.03	“ “
Rubbers.	0.06	“ “
Black rubber.	0.02	“ “
White rubber	0.07	“ “
Hose	0.0025	“ “

These figures are low as the market was down.

Metals—f. o. b. local purchaser

Iron.	\$0.0025 per lb.
Brass, light.	0.06 “ “
Brass, heavy.	0.075 “ “
Zinc.	0.04 “ “
Tee lead.	0.0425 “ “
Aluminum.	0.11 “ “
Pewter.	0.22 “ “
Copper.	0.105 “ “

Shoes—formerly \$.30 per 100 lbs.*Tin cans*—f. o. b. Rochester

Now \$4.50 per ton; were \$5.50

The total revenue received in the last two years was derived from the sale of material listed in table No. 5 following. The large increase in the percentage reclaimed shows here very plainly.

Table No. 5.

	1913		1914	
Total weight received at incinerator	17,323,536 lbs.		20,783,268 lbs.	
Total saved.	——1913——		——1914——	
	Weight.	Per Cent.	Weight.	Per Cent.
Paper	2,947,266 lbs.	.1701	4,966,414 lbs.	.2390
Rags	132,860 “	.0077	291,640 “	.0040
Tins	455,290 “	.0263	568,356 “	.0273
Bottles	132,381 “	.0076	181,288 “	.0087
Glass	178,990 “	.0103	232,622 “	.0112
Metal	13,483 “	.0008	38,648 “	.0019
Rubber	1,396 “	.0001	2,924 “	.0001
Shoes	9,674 “	.0006	9,850 “	.0005
Total	3,871,340 “	.2235	6,291,742 “	.3027

The actual revenue received in 1914 and the source of the same is shown in the next table herewith (Table No. 6). The allowance noted at the bottom of the table is for moisture and dirt in the paper, all of which is sold by dry weight. This is determined by the paper company by placing a one hundred pound sample in a steam dryer for twenty-four hours and making deductions on the basis of the sample.

At the present time no way is provided for checking up the moisture and dirt determination as made by the paper company. The chief clerk believes that some check should be made and it is recommended that this work be done by the testing laboratory regularly, if a simple apparatus for drying the samples can be secured.

The total revenue received from steam sold to the Rochester Light and Railway Company amounted to \$441.18 at ten cents per one

thousand pounds. It is believed that the revenue from steam should be increased in three ways:

- 1—The railway company should pay more for the steam as it without doubt costs them at least 50 per cent. more to make the steam for themselves.
- 2—The cost of handling the furnace should be much reduced.
- 3—The quantity of steam should be much increased.

To conclude, it is recommended that close study be given to the incinerator plant at once, with the recommendations of this report as a guide, and any action should be taken which will reduce the cost of operation or increase the revenue without affecting the sanitary results.

Table No. 6.

Paper	\$13,901.08
Rags	1,588.83
Tin cans	1,586.87
Bottles	1,142.85
Broken glass	574.54
Shoes	34.64
Metal	273.80
Rubber	96.83
Steam	441.18
Paint brushes	7.05
	\$19,647.67
Less allowances	2,055.66
Total	\$17,592.01

C—Contract Garbage Collection and Disposal.

Both the collection and disposal of garbage will be treated in this section inasmuch as both functions are performed by the same contractor.

Rochester commenced to collect garbage at public expense in 1880 when the work was supervised by the board of health, carried on by day labor and the garbage disposed of to farmers. A contract for the disposal of the garbage by reduction was first entered into in 1894. From that time until 1900, the work was very unsatisfactory for one reason or another, and in 1900 the whole matter was placed in the hands of the department of public works. From 1900 to 1906 collection was made by contract and the material was largely disposed of to farmers for hog feeding or was buried.

Since 1906 the contract has been in the hands of the Genesee Reduction Company, and disposal has been by reduction or cooking. The contractual period is five years, and the present company is now on

its second contract which includes the disposal of dead animals as well as garbage.

Contract Requirements and Conditions to Be Met.

The conditions which must be met by the contractor in the collection and disposal of garbage are as follows:

He must collect all dead animals in the city.

He must collect all of the household garbage from the population estimated to be about 250,000.

He must furnish all teams and labor necessary for a daily collection in the business portion of the city, and a collection twice per week in the residential portions, both throughout the year.

The equipment must be tight and sanitary at all times.

The garbage must be taken from the rear of the houses, if necessary, by the collectors.

He must build and maintain at his own expense, a disposal plant which shall dispose of the garbage without nuisance to the public.

He must earn enough in five years to amortize his whole investment, pay all his expenses and produce a profit, if the venture be a good business proposition, or he must take a chance of obtaining a new contract or selling his plant to another contractor or the city at the end of five years.

At the present time the work is made hard by the lack of assistance rendered by the public in providing the proper receptacles. All kinds of containers of both wood and metal are used, many of them being of such a character as to be entirely inadequate.

It is evident that the law on this subject should be made specific in defining what shall be considered a suitable receptacle as to size, material, and condition.

Equipment and Procedure.

The equipment provided for the collection of garbage consists of some thirty-two steel body rear dump wagons equipped with a loose canvas cover which can be spread over the load. These wagons hold three cubic yards and are hauled by horses.

The general procedure in collection varies only between the business and residential portions of the city. In the business portion a driver and a helper make daily collections over assigned routes, there being three of these routes. In the residential portions, the driver loads his own vehicle, and the collections are made twice a week

throughout the year, each driver having three regularly assigned routes which fill his week. It is customary for the teams to start at 2:30 or 3:00 A. M. in the summer and 6 or 7 A. M. in the winter, so that all collections as far as possible are completed before noon. Any material which is missed by regular collectors is picked up by two special pick-up wagons and a light truck. No more teams are used in one season than in another for the difficulty in collection in the winter more than makes up for its smallness.

Garbage collections should be made more often during the summer than in the winter on account of the much more rapid fermentation of the organic matter and the offense caused by the odors arising therefrom or the collecting wagon. Moreover, in the summer the volume of the material is greater than in the winter, often overtaxing the receptacles.

It is recommended that in the next contract, arrangements be made to provide more frequent collections in the summer.

The disposal plant is located next to the rubbish plant. It is of the steam cooking or reduction type, with no provision for degreasing the tankage. The tankage is removed by the farmers in the vicinity, who now pay \$2.00 per ton for it and use it for fertilizer. The material was formerly shipped to Philadelphia, where it was degreased, but the statement was made that the price paid at that time of \$3.00 per ton has been reduced and it no longer pays to ship it away.

The water used is furnished by the city to the contractor free of charge and without metering. The practice of furnishing water free to the contractor helps to prevent any chance of nuisance by eliminating the temptation on the part of the contractor to save water and take a chance on odors escaping in order to make a greater profit. All of this water should, however, be metered and a careful record thereof kept with other records of the garbage plant. It is recommended that a meter be installed at once.

All dead animals are disposed of outside the city by another company under a contract with the Genesee Reduction Company.

Reports and Records.

The main records of interest to the city kept by the garbage company consist of the number of cartloads of garbage collected per day, an estimate of the weight thereof based upon past experience, the number of teams and wagons at work, and the number of dead animals removed. Such a report is made weekly to the commissioner of public works.

The contract requires the weighing of all loads collected. This is not now done as no scales have been provided by the contractor. He weighs a few loads each year and from the results obtained estimates the total weight, using the number of loads delivered or the number of tanks filled as a basis.

Loads weighed in the past indicate that weight of the garbage is as follows:

	Weight per cubic yard.
March, 1915	1,235 lbs.
August, 1909	1,180 "
November, 1911	1,575 "

Actual weights should be recorded, as they will be very valuable data for the use of the city in case a new plant should be designed.

Inasmuch as the contract calls for the weighing of the material, it is recommended that the requirements be enforced. If practicable, the scales at the rubbish plant should be placed at the disposal of the contractor, otherwise he should provide some of his own.

It is also believed that a report should be made by the company on all complaints referred to them and the disposition thereof.

Results.

A record of the complaints for the last four years as recorded by the department of public works is as follows:

1911	1,290
1912	637
1913	509
1914	315

Observations of the plant and buildings showed that the company is making every possible effort to prevent complaints from that source and is succeeding very well as far as could be determined. If the decrease in the number of complaints can be considered as a criterion, the city is getting good collection service.

The cost of the present contract work, starting with the price bid in 1911, has increased from year to year to take care of additional territory. The contract provides that, in case any territory is added to that covered by the original contract, the cost of collection in such additional territory shall be added to the contract price as of 1911. In February, 1915, the board of contract and supply passed a resolution, following the addition of certain territory to the city during the preceding year, whereby certain additional payments to the contractor were authorized, as follows:

For 1914.....	\$5,200.00
For 1915.....	6,700.00
For 1916.....	7,200.00

The actual price paid for collection during these years then becomes:

1914	Contract price	\$77,500.00
	Added	5,200.00
	Payment	\$82,700.00
1915	Contract price	\$77,500.00
	Added	6,700.00
	Payment	\$84,200.00
1916	Contract price	\$77,500.00
	Added	7,200.00
	Payment	\$84,700.00

These costs represent an expense of about thirty-four cents per person per year.

The quantity of material collected in the last three years was:

	1912	1913	1914
Animals, number.	10,561	10,624	11,774
Garbage, loads	13,344	14,382	13,376
Garbage, tons (approximate)....			31,174

It is practically impossible to determine from the present records what the costs of the services are and no comparison with other cities is of value on account of the great difference in local conditions.

The cost of collection should be determined separately from that of disposal, as is indicated hereinafter.

The present contract period ends in 1917. Prior to that time it will be necessary that Rochester consider carefully whether the contract system shall be continued or whether the city shall use its own forces.

The work naturally divides itself into two parts which will be considered separately, namely—

Collection of garbage.

Disposal of garbage.

(a) Collection—

The experience of other cities with contract collection of garbage has been generally unsatisfactory as compared with municipal

collection. Either the service rendered by the contractor has been of an unsatisfactory quality or the expense has been excessive. The reasons for this are evident:

First: The quality of the service rendered under the contract system is necessarily affected by the desire on the part of the contractor to make as large a profit as possible. It is this constant temptation to cheapen the work that causes the greatest dissatisfaction on the part of the citizens and the need for constant inspection on the part of the city officials.

Second: The contractor must provide a complete organization and in addition, the city must employ a separate organization to inspect the work of the contractor. This means that the cost of the service to the citizens must be the expense to the contractor, plus the expense for inspection, plus a profit, if the contract is a satisfactory one from the business point of view.

Third: It is very hard to provide all conditions which must be met by the collectors in advance and once the contract is signed changes are made with difficulty. This means less prompt reaction to meet new conditions and a corresponding inability to produce the best results.

Rochester has been particularly fortunate if the results which have been recorded are correct, in that the work has been handled with a minimum of complaint. It is believed, however, that by the adoption of a municipal collection, many advantages will be gained and the disadvantages of the contract system avoided. It should be possible under municipal operation:

1. To control absolutely the hours and method of collection and make much more easy such changes as may be required to improve the conditions of the service.

2. To coordinate the garbage collection with the collection of other refuse, thus producing economies—especially in supervision and inspection.

3. To reduce the expense of collection which should represent actual cost and should be less than the cost plus profit of the contractor.

4. To raise the standard of service rendered through the greater desire on the part of the public force to produce sanitary results and the lesser desire for profit.

5. To avoid any chance of lawsuits arising from indefinite contracts or for other reasons.

Unless further careful study indicates that the assumptions set forth above are incorrect, it is recommended that Rochester, at the end

of the present contract, take over the work of garbage collection and carry it on in connection with the collection of other classes of refuse, under the supervision of the same officers.

In any case if a new contract is offered, bids should be requested for collection separate from the disposal of garbage.

(b) Disposal—

The primary considerations in the disposal of garbage are (1) sanitary results and (2) costs.

It is absolutely necessary that the sanitary results be satisfactory even though the cost be high.

The question of municipal operation of the garbage disposal works as against contract operation may be largely a local problem. If it is possible to find a contractor who will dispose of this material and either pay the city more than it can earn by disposing of it itself, or do the work at a less cost in case no earning can be made, the only question that can be raised is whether the sanitary results are unsatisfactory. It is believed that at present the sanitary results obtained by the contractors are very satisfactory and the question is largely one of expense.

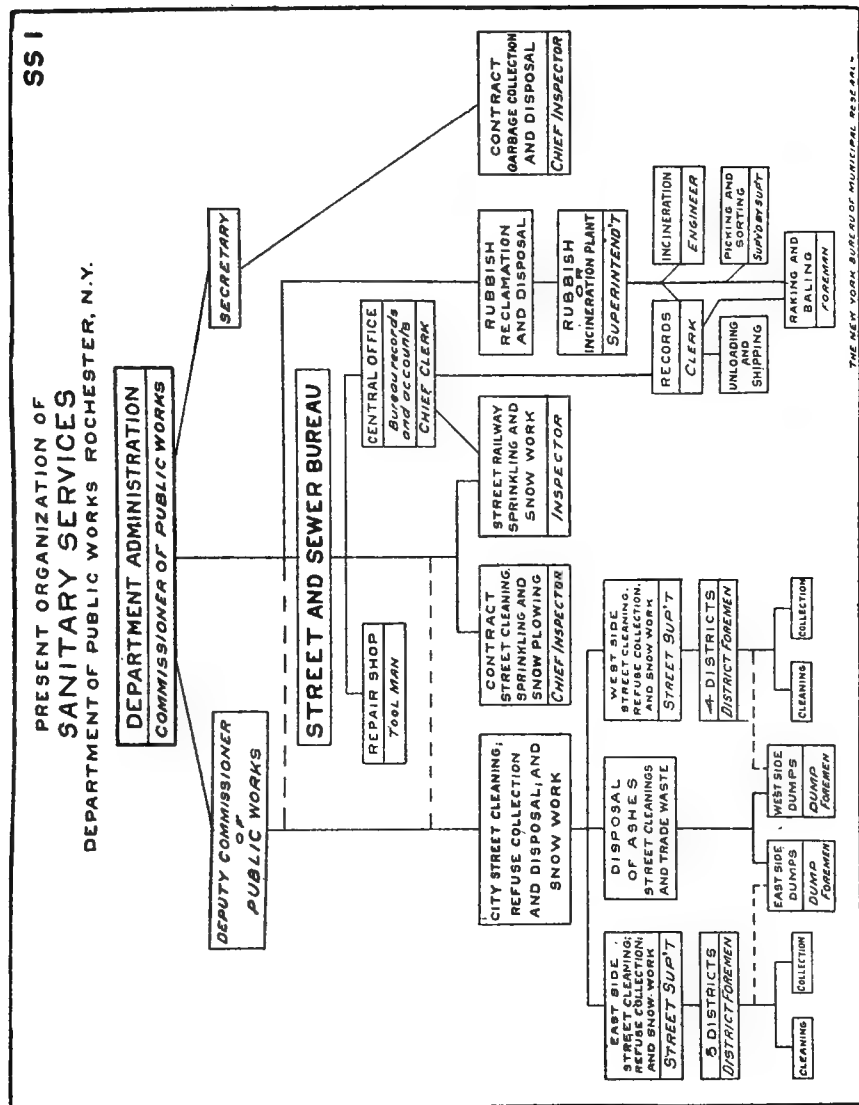
It has been proved in other cities that garbage disposal can be made a source of profit to the municipality. It is believed that this is possible in Rochester, and it is strongly recommended that a further very careful study be made, starting now, to determine just what the city can do if it takes over the work. Such a study should form a basis for judgment as to whether it will be cheaper for the city to do the work or whether another contract should be let when the time comes for the making of new arrangements in 1916.

If the contract system is continued, it is recommended that careful consideration be given to the profit-sharing form of contract, whereby the city provides the proper buildings and land, and the contractor the machinery and equipment, all of which should be built to conform with the best practice under a specification to be prepared by the city. The contractor is allowed to operate the plant under an agreement which provides that he receive a proportional share in the profits after all expenses have been paid, including those necessary to amortize the investment, such profits to be shared in proportion to the investment made by each party, and that the plant become the property of the city at the end of the contract. The contract period should be made long enough to allow the contractor to operate his equipment during its useful life—perhaps for a period of fifteen years, thus avoiding the need of high amortization charges. By such a method it will be pos-

sible to retain the advantages of private initiative and avoid the difficulties arising from the temptation on the part of the contractor to obtain greater earning by installing inferior machinery, or the chance of establishing a monopoly on this work to the disadvantage of the city.

At the present time the city cannot help getting the worst end of the bargain, because the contractor must pay for his plant in five years, and once he has the plant paid for he is in a position to offer such low rates that no competitor can afford to build a plant, and yet he can charge rates so high that considering a long period, the city pays much more than the service is worth. By the elimination of the risk caused by the need for abandoning a plant at the end of five years, it should be possible to obtain either some revenue for the city or very much better bids than are now secured.

If the profit-sharing contract is not used, it is recommended that municipal ownership and operation of the disposal plant be considered.



S9-2

PROPOSED FIRST STEP IN REORGANIZATION OF
SANITARY SERVICES
 DEPARTMENT OF PUBLIC WORKS ROCHESTER, N. Y.

ADMINISTRATION
 DEPARTMENT OF PUBLIC WORKS
 COMMISSIONER OF PUBLIC WORKS

STREET AND SEWER BUREAU

BUREAU ADMINISTRATION
Responsible control over operations of the Bureau. Special responsibility for policy and relief for commissioner.
 DEPUTY COMMISSIONER
 OF PUBLIC WORKS

DIVISION OF INSPECTION
 AND INSTRUCTION
Special inspection and instruction of personnel.
 CHIEF INSPECTOR

DIVISION OF
 RECORDS AND ACCOUNTS
Cost accounts, payroll records of Bureau, other than expense and appropriation accounts.
 CHIEF CLERK

SHOP
 DIVISION
Repair and maintenance of equipment.
 FOREMAN

SANITARY SERVICES

DIVISION OF
 SEWERS
Maintenance and repair of sewage system.
 SUPERINTENDENT

DIVISION OF
 HIGHWAYS
 AND BRIDGES
Maintenance, repair and reconstruction of highway and bridges.
 SUPERINTENDENT

DIVISION OF
 GARBAGE COLLECTION
 AND DISPOSAL
Collection and disposal of garbage and dead animals.
 CONTRACTOR

DIVISION OF
 RUBBISH DISPOSAL
Recollection of valuable portions of rubbish and disposal of remainder.
 RUBBISH PLANT
 SUPERINTENDENT

DIVISION OF
 STREET CLEANING AND
 REFUSE COLLECTION
Cleaning, sprinkling and flushing streets. Collection of ashes, rubbish and household refuse. Disposal of ashes and rubbish.
 5 DISTRICTS
 (SEE SUB CHART)

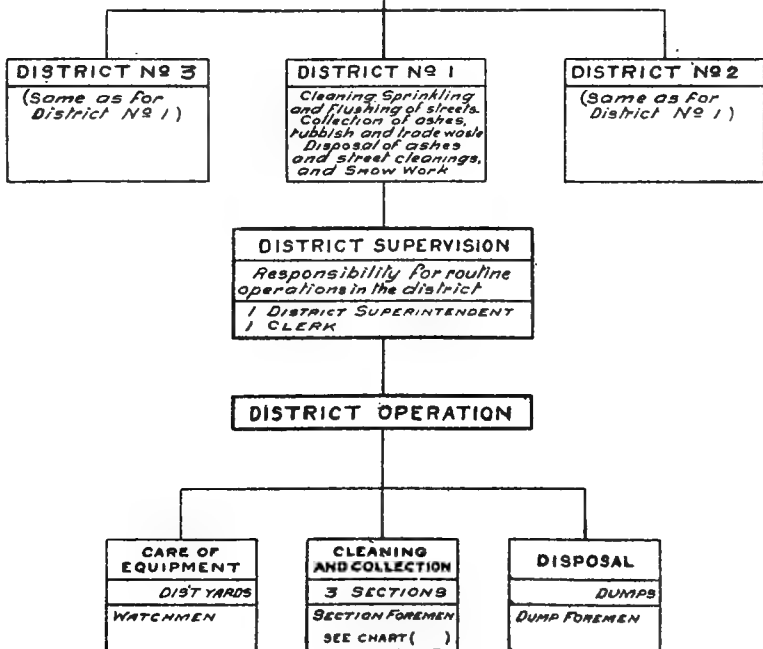
THE NEW YORK BUREAU OF MUNICIPAL AFFAIRS

S S-3

PROPOSED FIRST STEP IN REORGANIZATION OF
THE SANITARY SERVICES
 ROCHESTER N.Y.

BUREAU ADMINISTRATION
 DEPUTY COMMISSIONER
 OF
 PUBLIC WORKS

DIVISION OF STREET CLEANING
 AND
 REFUSE COLLECTION



55-4

DIVISION OF STREET CLEANING AND REFUSE COLLECTION
CITY OF ROCHESTER, N.Y.

BUREAU ADMINISTRATION
DEPUTY COMMISSIONER

DISTRICT NO.

DISTRICT SUPERVISION

**DISTRICT
SUPERINTENDENT**

*Responsibility for
routine operations
within the district.*

CLERK

*Time keeper record and
report maker and general
assistant of Superintendent*

DISTRICT OPERATION

**CARE OF
EQUIPMENT**

District Yards

St.

St.

WATCHMEN

**CLEANING
AND COLLECTION**

Sections

TOTAL PERSONNEL

SECTN FOREMEN

ASST " "

SECTN STN KEEPERS

SQUAD LEADERS

TRUCKERS

LOADERS

DRIVERS

SWEEPERS

DISPOSAL

Land dumps

St.

Dump Foremen

St.

Laborems

DIVISION OF STREET CLEANING AND REFUSE COLLECTION
CITY OF ROCHESTER, N.Y.

SS-5

DISTRICT NO.
Dist. Supt.

**CLEANING AND COLLECTION
SECTION NO.**

SECTION SUPERVISION

SECTION FOREMAN

*Control over all cleaning
and collection of refuse,
(except garbage) within
the section.*

**SECTION
STATION KEEPER**

*Watchman, Messenger, Janitor
and general assistant of
Section House.*

**ASSISTANT
SECTION FOREMAN**

*Responsibility for work assigned
by, and is relief for, Section Foreman*

SECTION OPERATION

CLEANING

*Cleaning of streets
within section*

PERSONNEL

SQUAD LEADERS

SWEEPERS

DRIVERS
(WHILE ON CLEANING)

COLLECTION

*Collection of ashes,
rubbish, sweepings and
trade waste.*

**MATERIAL DISPOSED OF
AT FOLLOWING POINTS**

**PERSONNEL
SQUAD LEADERS**

TRUCKERS.

LOADERS

DRIVERS

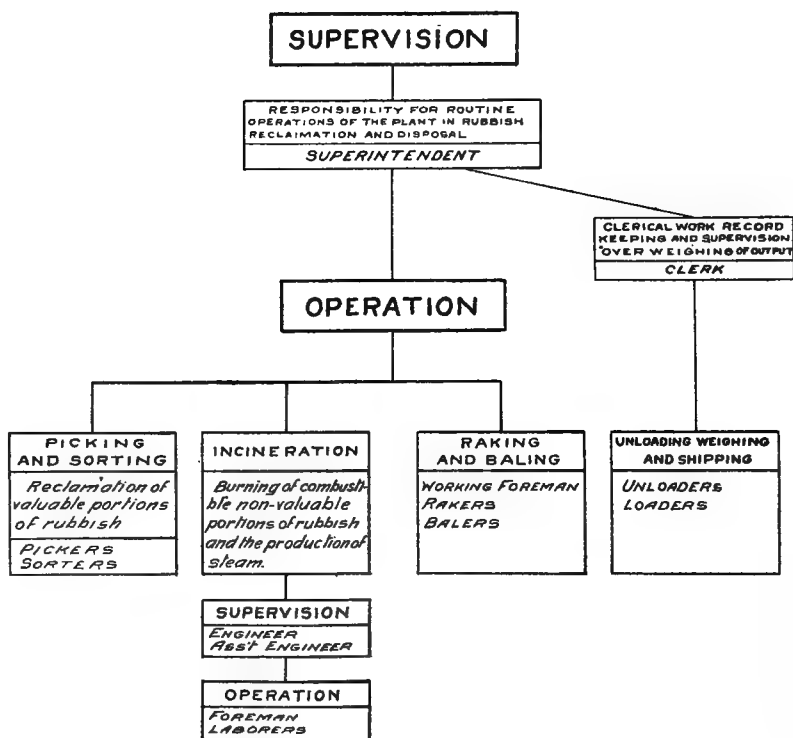
CONTRACT WORK

*Sprinkling, snow
plowing and removal*

**General supervision
over contractors forces**

S.S.-6

**PROPOSED FIRST STEP IN REORGANIZATION
OF
RUBBISH PLANT
DEPARTMENT OF PUBLIC WORKS ROCHESTER, N.Y.**



THE NEW YORK BUREAU OF MUNICIPAL RESEARCH



Proposed Division and Section Lines. Division of Sanitation.

WATER WORKS BUREAU.

The water works bureau is a part of the department of public works. The head of the bureau is the superintendent of water works, who is appointed by the commissioner and holds office during his pleasure.

The activities of the bureau are confined to the operation and maintenance of the water works system, all construction work being under the control of the engineering department. The domestic gravity system includes the source of supply—Hemlock Lake—which lies about thirty miles south of the city; two conduit lines leading into the city; an equalizing reservoir, called Rush Reservoir, about ten miles south of the city; two distributing reservoirs within the city; and the distribution system itself. In addition to this domestic gravity supply there is a high-pressure fire system which affords additional fire protection to the central part of the city. The latter supply is taken from the Genesee River and pumped directly into a separate system of high pressure mains through a central pumping station. This high pressure system is known as the Holly system.

In general the water works bureau appears to be rendering satisfactory service. The source of supply is excellent, the distribution system is well designed and maintained, and for the most part the personnel of the bureau is good. There are, however, a few weaknesses in the organization of the bureau, the accounting methods may be improved upon and the question of water rates has not been satisfactorily handled. The report which follows is divided into three main parts—organization and administration, revenues and accounting methods, and operation and maintenance.

ORGANIZATION AND ADMINISTRATION.

A Reorganization of the Bureau Suggested.

Under the proposed organization of the bureau the revenue division would be practically the same as the present accounting division, but instead of the present unsystematic division there should be a distribution of the work in such a way that each of the several groups of employees have definite duties. There should be no changing about from one kind of work to another, nor should there be any "helping out" of inefficient clerks by the remainder of the force. The work of the division should be divided into the keeping of revenue accounts, inspection and handling complaints.

The distribution division should include the present meter and repair divisions. This division should be under the direction of an experienced civil engineer, with foremen in charge of meter repairs, the repair shops, the repair gangs, and the inspection force. There is no good reason for the separation of the meter and repair divisions as is now the case. Both divisions are quartered in the same building, and, inasmuch as both are performing work in connection with the distribution system, a centralization of functions under one head should tend to reduce duplication of work and produce a more effective organization.

The present organization of the force at the pumping station is considered satisfactory. Since this station serves only the high-pressure fire system, it could be equally well either a separate organization unit or a part of the distribution division.

The division of conduits and reservoirs has control over all work in connection with the collection and storage of water. The present organization of this division is satisfactory.

Permits.

Under the present organization permits are issued by an application clerk in the accounting division. The proposed reorganization of the department of public works, outlined in detail elsewhere, provides for a central permit division in the bureau of accounts and records which will issue all permits. The suggested procedure will be found in the section of the report referred to above.

Administrative Control.

Conferences with division heads and personal inspections are the means of control used by the water works superintendent. Practically no written reports are submitted to him and cost data are almost entirely lacking in all branches of the work.

In order to exercise proper control over any work unit costs are essential. In the proposed reorganization of the department of public works provision is made for a division of cost accounts in the central bureau of accounts and records. This division should furnish cost data to the water works superintendent at regular intervals.

In connection with the proposed system of unit costs, certain modifications in the present methods of reporting are desirable. At present a weekly report is submitted to the superintendent by the engineer in charge of the pumping station, and semi-weekly reports are made by the foreman of the repair and meter divisions. The form of these reports can be improved.

The form of report used at the pumping station does not give sufficient information for satisfactory unit costs and efficiency of operation. It is suggested that a modification of the forms recently installed in the department of water supply, gas and electricity in New York City be used in Rochester. These forms call for daily reports which go to the cost accounting division and a monthly report summarizing the daily reports, which is submitted to the supervising head of the department. The back of the monthly report is used for a classification of expenditures and unit costs.

The reports of the distribution division may be greatly improved by introducing a proper system of job cost accounts. Under such a system each job is given a serial number which identifies it on all records, and a separate daily time report is required for each kind of work. For example, the forms used in the meter department should include the following: a daily time sheet for meter testing; a daily time sheet for meter repairs; a daily time sheet for the original installation of meters; and a daily time sheet for meter disconnecting and resetting. These forms are all of standard size, and are easily distinguished by being printed on different colored papers.

A similar system should be installed in all divisions of the water works bureau. The completeness of the records resulting from the use of such forms and the aid to the administrative head of the department are plainly evident.

REVENUES AND ACCOUNTING.

Records.

The use of loose-leaf books has been ignored in the accounting division of the water works bureau. The water account ledgers are huge volumes weighing approximately sixty pounds per volume. They are so large in fact that no attempt is made to place them in vaults at night. As these books form the original record of consumers' accounts any loss by fire would be serious and fire protection should be provided at once. The pages in these books are approximately 18x20 inches and the books themselves are about six inches thick. It is unnecessary to have ledger sheets of this size. All of the information necessary for water accounts ledgers can be placed on sheets 11x14 inches, and by the use of loose-leaf books the handling, sorting, and arranging of accounts is greatly simplified. It is suggested that the present records be replaced by modern loose-leaf records. Such ledgers could readily be placed in fire proof vaults at night.

The Bureau Not Self-Supporting.

Charges for water are insufficient to cover cost of supply. The following table shows the number of services metered and the receipts therefrom, the consumption and the average charge for water compared with the cost per hundred cubic feet of supplying water for the year ending December 31, 1913.

Supplies	Services.		Receipts from Sale of Water		Consumption.		Average Charge	Average Cost
	Number	Per Cent.	Amount	Per Cent.	Gallons	Per Cent.	Per 100 cu. ft.	Per 100 cu. ft.
<i>Metered</i> (including water used in public buildings, etc., for which no revenue is received).	(a)							
	43,888	99	\$637,482.42	100	6,072,575,000	70	\$0.0788	\$0.0879
<i>Unmetered.</i>	not known	1	..	..	2,592,926,500	30	..	..
	43,888	100	\$637,482.42	100	8,665,501,500	100		

a All figures taken from the annual report of the department of engineering for 1913.

The statistics contained in the annual report of the department of engineering relating to the consumption of water show that approximately 70 per cent of the water distributed was supplied through meters. The remaining 30 per cent represents water used for fire protection, street sprinkling and flushing, sewer flushing, and similar municipal purposes, and also water lost due to leaks and waste.

The cost of water for the year ending December 31, 1915, was 8.79 cents per hundred cubic feet. The figures shown are those appearing in the annual report (1913) of the comptroller with the exception of the additional sinking fund requirements.

Wages, Maintenance and Expenses.....	\$226,864.30
Interest on Bonds.....	293,622.29
Sinking Fund Appropriations.....	48,490.00
Additional Sinking Fund Requirements....	140,000.00
Total.....	\$708,976.59

It will be noted that in the annual report of the department no amount has been included, in arriving at the cost of supplying water, for sinking fund requirements, the cost being figured on total maintenance plus interest on bonds.

During the year 1913, \$48,490 was set aside for sinking fund purposes. This was insufficient to meet the needs for sinking funds. It

will be necessary in future years to set aside approximately \$188,000, per year, in order that sufficient money may be accumulated to redeem the bonds at maturity. The additional requirement for sinking fund purposes, over and above the amount set aside during the year 1913, is therefore \$140,000. As the sinking funds are the only provision for the ultimate redemption of the bonds, it is essential that proper sinking funds be established.

Sinking funds cannot be created except by appropriations of revenue. It will be seen, therefore, that the sinking fund installments, as well as the interest on the bonds, are practically a first mortgage on the water revenues.

Of the total consumption, 1,115,400,200 cubic feet, approximately 30 per cent., is non-revenue producing. Taking the remaining 70 per cent. of the supply, or 808,780,140 cubic feet, and dividing this into the total revenue (\$637,482.42) received from supplying water on a metered basis gives an average meter rate of 78.8 cents per thousand cubic feet. As the average cost of water supply is 87.9 cents per thousand cubic feet, it will be seen that the water system is operated at an average loss of approximately 9 cents per thousand cubic feet.

The average rate received for water supplied on a metered basis could be increased slightly if the present system of granting reduced rates to schools and charitable institutions were abolished. The present sliding scale of charges for the different classes of institutions is very unsatisfactory; at least a uniform rate should be charged to all of such consumers.

It is desirable that the water used for municipal purposes should be paid for by the municipality to the water bureau. The burden would be then placed where it properly belongs, namely, on the taxpayers instead of on the water consumers. This would increase the water revenues and thus tend to decrease the rates necessary to be charged consumers. It would increase slightly the taxes to be paid by property owners, but this is equitable for many of the taxpayers now receive gratuitously benefits in the way of fire protection, sprinkling of streets, etc., for which other water consumers are paying. This applies particularly to property from which the city receives no revenue whatever.

In order that the water supply may be self-supporting, it is essential that immediate action be taken to make an exhaustive study of the water revenue with special reference to the question of water rates. From the above figures it will be seen that one of two things must be accomplished: either operating expenses must be considerably curtailed or the rates somewhat increased in order to meet the costs of

administration, operation, and maintenance, and the fixed charges on the bonded debt.

As the efficient management of public water works requires that charges be based upon the cost of service, it would seem essential that the water rates be increased sufficiently to cover the fixed charges of the bonds, which should be considered as a part of the cost of supplying the water. It is not suggested that any advantage be taken of the consumer to make a profit in supplying the water, but the consumer should not be given any benefit which entails a loss in the operation of the water works system.

Necessity for Refunding Bonds Should Be Eliminated.

The bonds outstanding at December 31, 1913, amounted to \$8,261,000. These bonds have been issued for various terms ranging from ten to fifty years. This has been done irrespective of the nature of the asset to be acquired by the proceeds of the sale of such bonds. The terms of some of the bonds are very conservative, although the disparity between the terms of bonds issued for the acquisition of similar properties does not seem to be warranted.

Of the total bonds outstanding, over three million dollars represents bond issues not redeemed at maturity and which consequently had to be refunded.

The water bureau seems to be somewhat lavish in the issue of bonds and is not making proper provision for the redemption thereof. This applies particularly to the bonds which have been refunded once, and which will have to be refunded again unless proper provision is made for amortization.

It would be wise to consider the effects of the funded debt which is growing rapidly and which future generations will have to redeem. The bonds already refunded would have been redeemed at least ten years ago had proper financial care been exercised. The sinking funds have been much neglected, and the time has arrived when proper consideration should be given to this important matter. It is suggested that in order to eliminate the deficiencies attendant upon the administration of sinking funds, all future bonds be issued in serial form, providing this can be done in accordance with the law.

Sinking Funds Not Scientifically Managed.

The total water revenues of the present time (\$679,000) are not sufficient to provide for interest and the proper fixed charges on the bonds, in addition to the expenses of operation and maintenance.

According to the annual report of the comptroller for the year 1913, the expenses of operation and maintenance and the interest on

the bonds amounted approximately to \$52,000. In addition \$48,490 was set aside out of revenues and transferred to sinking funds, which left an apparent surplus from operation of \$110,350. In order to make proper provision for the redemption of bonds at maturity, it will be necessary to set aside approximately \$190,000 per annum instead of \$48,490 above stated. This will convert the apparent surplus of \$110,000 into a deficit of approximately \$32,000.

The latest report of the comptroller available at the time of the survey was that for the year ending December 31, 1913. Using this as a basis, a statement of bonded indebtedness as of December 31, 1913, showing the actual sinking funds established on an actuarial basis, has been prepared and is appended to this report.

Reference to this statement will show that the amount of annual installments necessary for the redemption of bonds at maturity, provided such installments had been set aside each year and invested at $3\frac{1}{2}$ per cent. compound interest, was approximately \$197,000 per annum. Had this amount been properly set aside and invested at $3\frac{1}{2}$ per cent. compound interest, was approximately \$197,000 per annum on December 31, 1913, was \$1,592,056.16. The actual cash and securities in the sinking fund on this date were only \$1,059,455.65. It will thus be seen that on a $3\frac{1}{2}$ per cent. investment basis there was a deficiency in sinking funds at December 31, 1913, of approximately \$532,600.

The time allotted for the survey did not permit of the detailed analysis of sinking funds necessary to ascertain the average rate of interest received on sinking fund investments. In few cities has it been found to exceed $3\frac{1}{2}$ per cent., but in order that the best possible condition may be disclosed, a second statement of bonded indebtedness has been prepared on a basis of a 4 per cent. return on sinking fund investments. Provided this higher rate of interest could be obtained, it would not be necessary to set aside so large an annual sum as under the $3\frac{1}{2}$ per cent. basis. The installments on the 4 per cent. basis would amount to slightly over \$184,000 per annum. On this 4 per cent. basis, there would have been in the sinking fund at December 31, 1913, the sum of \$1,508,440.88. Comparing this with the amount of cash and securities at hand at that date (\$1,059,455.65) shows a deficit, even under these most favorable conditions, of approximately \$449,000.

The sinking funds in respect to bonds issued for the Hemlock Lake watershed and for the water pipe extension loan of 1894 show a surplus at December 31, 1913, irrespective of the basis of calculation. The sinking funds for the watershed bonds need practically no further

appropriations, for the amounts already so transferred, provided they are kept properly invested, will produce sufficient to redeem these bonds at maturity. The sinking funds relating to water pipe extension bonds at December 31, 1913, had \$273,387.94 in cash and securities as against the total bonds outstanding on this account which amounted to only \$235,000. The surplus in this fund, allowing for interest to July 1, 1914, was probably about \$40,000. This surplus should be available to meet the deficit on the general water sinking fund.

Leaving out of consideration any further annual installments to the Hemlock Lake watershed and the water pipe extension funds, which as before stated are unnecessary, the amount to be set aside and credited to the general water sinking fund on the $3\frac{1}{2}$ per cent. investment basis would be approximately \$162,272.47 per annum. In addition, however, it will be necessary to set aside at least a further sum of \$25,000 per annum to meet the deficiency on this sinking fund, so that the water revenues to be appropriated for sinking fund purposes until such time as any of the bond issues are redeemed will amount to approximately \$187,000 per annum instead of the \$48,490 set aside during the year 1913. The amount set aside each year for the redemption of the bonds has never been adequate, and the entire matter of sinking funds lacks a scientific basis. The lack of scientific management of sinking funds is not peculiar to Rochester. Sinking funds are seldom efficiently operated. It cannot be too strongly stated, however, that the longer such conditions are allowed to continue the worse they become. It is recommended that immediate action be taken to wipe out the present deficit in the sinking funds. It is not possible to do this in the course of a few years, but it should be a comparatively easy matter for the department to make provision each year during the next twenty-five years to eliminate present deficiencies.

Hydrant Rental.

No hydrant rental of any kind is being paid by the city of Rochester. In 1914 there were 5,115 hydrants in use. At an average cost of \$37.80, the capital invested amounted to \$193,347. Calculating interest on this amount at $4\frac{1}{2}$ per cent., depreciation at 3 per cent. and the maintenance of each hydrant (including inspection, painting, and repairs) at \$1.00 each per annum, the annual charge for the maintenance of hydrants is \$19,600. To this amount must be added the annual cost of operation and maintenance, including interest charges, of the Holley fire system and a percentage of the annual cost of the domestic system. The latter is necessary because the domestic system is used to a certain extent for fire protection and consequently there is an additional costs of mains, hydrants, etc., which cannot rightfully be

charged to the consumers. The annual maintenance charge for the Holley system is about \$16,000, this figure not including appropriations for the sinking fund. The leading engineers of the country have practically agreed that 23 per cent. of the total cost of a water works plant is properly chargeable to fire protection. Calculating interest at $4\frac{1}{2}$ per cent. and depreciation at 2 per cent. on 23 per cent. of the total cost of the domestic plant, there must be added to the above figures about \$104,650. This makes the total annual cost to the city for fire protection about \$140,250.

Dividing the above annual cost by the total number of hydrants in service, the cost per hydrant is approximately \$27.40 per annum. This figure is rather high, due to the fact that the Holley system requires separate mains and separate fire hydrants in the central part of the city.

It is plainly unjust to assess this cost of fire protection against consumers only and in meter rates. Many people who do not pay water rates to the city at present are receiving fire protection free of cost. For example certain warehouses which are not connected with the water system except for fire protection are not charged for this protection. If the proper amount were inserted in the budget for hydrant rental it would be spread over all assessed property throughout the city, and this evident injustice would be remedied.

Public or Semi-Public Use of Water Should Be Paid For.

Almost all water used by the city departments, schools, churches, charitable institutions, etc., is metered, but is not paid for at standard rates. City departments pay nothing for water, and churches and charitable institutions pay only certain variable percentages of the regular charges.

This is not as it should be. Water used by city departments is for the general benefit of the community and should be paid for by the taxpayers and not by the water rate payers.

To allow reductions in the case of semi-public or charitable institutions is particularly bad practice. Certain institutions receive 90 per cent., others 50 per cent., and still others only 25 per cent. reduction. There is a great opportunity here for favoritism, and this should be eliminated. If the city wishes to subsidize semi-public organizations, such as hospitals, schools, charitable institutions, etc., it should do so through appropriations to the institutions. It is unjust to the consumers to force them to pay higher rates in order that the water supply system may be self-supporting.

Use of Water for Building Purposes Not Properly Controlled.

There is no cooperation between the bureau of buildings and the water bureau, although the bureau of buildings passes upon all plans for building operations. If the bureau of buildings, or the building inspector, under the proposed reorganization, were required to report on all plans filed, it would be possible to compel builders to take out permits before beginning work. There is now no means of doing so. The division of building inspection should require a permit from the water bureau before finally approving any plans for building operations.

Charges for water used in building operations should be collected in advance in all cases. They should be based upon estimated quantities figured from the original plans by the division of building inspection. After a building has been completed a further inspection should be made by the water bureau, and, if necessary, a supplementary charge collected to cover any deficiency in the original estimate. Receipts in the form of permits should be issued for all collections for water used for building purposes.

Continuous Meter Reading and Billing Recommended.

There are about 45,000 metered services in the city, and of this number approximately 1,400 meters are read each month; the remainder being read quarterly. Bills for water rents are made out once each month for the meters read monthly and once each quarter for the meters read quarterly. The result of this practice is an uneven distribution of work in the accounting and revenue division. There is a peak load at the end of each month and a maximum peak load at the end of each quarter. The same rush periods occur in the treasurer's office because of bills being paid in the same irregular manner.

It is not necessary for all bills to be issued on the same day and at the beginning or end of each quarter. Meter reading should be carried on continuously, and bills should be sent out every day in the month. This need not interfere with the intervals at which the bills are issued to each consumer. Bills may be issued every month or every three months as at present.

The system now in use in New York City could be adopted in Rochester. Inspection districts should be established and an inspector assigned to each district daily, the man not knowing in advance the district to which he will be assigned. This inspector should be required to read not only all meters in his district, but also to perform all inspection work in connection with complaints. In case the meters in a district are not all read during the day, the inspector should be

assigned to a nearby district the following day and required to complete his back work as well as his new assignment.

In New York City bills are made up each day as the readings are turned in to the revenue division. Only one day elapses between the reading of the meters and the sending out of the bills. This system results in a uniform amount of work for both the readers and the clerical force, with no rush periods.

The present system of copying revenue accounts due into separate ledgers for the treasurer's office is unnecessary. The treasurer's office should be merely the collection agency. Any bill presented on the official form should be received and the amount collected. The stubs should then be returned to the revenue division where the necessary entries in the ledgers may be made.

The Delivery of Bills.

At present the meter readers deliver all bills. These men do not make collections, and, as they are paid at the rate of \$960 per year, considerable economy would result from a more efficient method of delivering bills.

There are two methods of delivering bills which might be considered, either one of which would be more economical than the one now used. The present form of bill may be retained and the bills delivered by boys, or another form of bill may be used and the bills mailed. It is suggested that a postal card form of bill be used. Such a bill could be sent through the mails at a cost of one cent. The saving which would result from this method of delivering bills is evident from the following figures.

There are approximately 43,600 bills which are delivered four times a year and about 1,400 bills which are delivered each month. This means approximately 191,200 bills each year. If these bills are sent through the mail at a cost of one cent, the expense to the city would be about \$1,912. The present expense is considerably more than this. There are thirteen regular meter readers, who are paid at the rate of \$960. Estimating that one-fourth of the time of the meter readers is spent in delivering bills, the cost to the city is \$3,120 per year. It is probably true that more than one-fourth of the time of these men is spent in delivering bills.

Additional saving to the city would result from the reduction in the number of meter readers required under the suggested system of delivery.

Meter Readers' Reports.

Although the city is not routed, an attempt is made to have each meter read by the same reader each time a reading is made. The cards used for recording the readings contain all the readings for the year. The opportunities for meter readers to sit at home and enter average readings to correspond with previous readings should be eliminated.

It is recommended that the present form of meter readers' cards be abandoned, and a new record used for each reading; the record to include nothing to show the previous reading of the meter. Several municipal water departments have installed a meter-reading sheet which permits the use of the addressograph in making out the reading sheets for the inspectors each day. This sheet is in the form of a slip containing the records of twelve months, each record showing the location of the meter, its size, style, and number. The name and address of the consumer is entered by the addressograph, and there is a space to show the meter registration. A code is used for reporting irregularities or defects requiring repair. The use of similar forms in Rochester is recommended.

Complete Rules and Regulations Should Be Printed.

Although the water bureau issues a pamphlet which purports to contain complete rules and regulations for consumers, this pamphlet has not been revised since 1909. After a rate revision, which is suggested elsewhere, this pamphlet should be rewritten to conform to present requirements.

OPERATION AND MAINTENANCE.

Per Capita Consumption Too High.

In a city entirely metered as Rochester is, it would appear that the per capita consumption is considerably higher than it should be. In New York City where only one-fifth of the service is metered, a systematic water waste campaign reduced the consumption to about ninety-five gallons per capita per day. In Rochester the present consumption is nearly ninety gallons per capita per day. With the growth of the city the need for water will increase; and the supply available is limited. Every possible action should be taken toward the lowering of the per capita consumption.

Meter Seals Should Be Used.

As a step toward the prevention of water waste and as a certain protection of revenues, the sealing of all meters is necessary. The superintendent of water works states that in his opinion the use of meter

seals is needless and causes unnecessary additional expense. This opinion is contrary to the experience of other cities. Unless meters are sealed, anyone can remove a meter and replace it in service at any time without the knowledge of the water bureau, with a consequent loss of revenue. It is suggested that all water meters in the city be sealed with the new type of brass seal which does away with the use of a press, which is necessary when lead seals are used.

A Systematic Testing of Meters Recommended.

Practically the only meters which are tested are those which are reported by meter readers as stopped, or which are the subject of complaint. Steps have recently been taken to test certain of the meters which have been in service for more than five or six years.

As no record of meters tested has been kept, it is impossible to state how much variation in registration is occurring in these meters, but it is safe to say that unless meters are kept in good repair and tested at regular intervals the greater percentage of them will run slow and thus cause a loss of revenue to the city. In order to prevent this, there should be a systematic testing of all meters at intervals not greater than five years. In this connection it is suggested that test tees be installed in the large meters in order that they may be tested without removal from service.

It is suggested that the practice of tagging all meters received by the department be adopted. As meters are received they should be tagged with a card of a certain color, on which is indicated the nature of repairs, or tests to be made, etc. When the tests or repairs have been completed and approved by the division head, this tag should be replaced by one of a different color giving a record of the test of the meter and indicating that it is ready for use. In this way, meter setters would be certain of getting only tested meters for installation.

The Ownership of Meters.

By section 242 of the city charter, the commissioner of public works is authorized to order the installation of water meters on all services. At present all meters are installed at the cost of the consumer and are owned by the consumer. In other words, the consumer is required to pay for equipment used in collecting revenues. This procedure is entirely wrong. The city should own all water meters, particularly as the meters are maintained by the water works bureau. It is understood that the city has not power or authority to maintain private property, yet this is what is being done when meters owned by consumers are repaired by the city.

It is suggested that all meters now installed be purchased by the city, and that in the future a charge be made for each meter and a rental sufficiently large to cover the cost of maintaining the meter be charged if necessary.

Meter History Cards.

The use of meter history cards is a step in the right direction, but the cards now in use do not show enough significant data with regard to the life history of the meter. It is suggested that, in addition to the information now recorded on these cards, the particulars of the installation of each meter and of all tests, changes, repairs, violations, etc., relating to it be inserted on the card. The card should show also the cost of all work required to keep it in repair. From such records information can be obtained as to the cost of up-keep of the various classes of meters.

Service History Cards.

The small service history cards now in use can be greatly improved and made much more valuable by certain additions. It is suggested that the cards be enlarged to conform to the size of the meter history cards, and that each service card show a sketch of the location of the service, together with a record of all costs for repairs and maintenance, in addition to the information now given.

Buildings and Equipment.

The meter division and the repair division are located in the same building. This building is a new, brick and concrete structure which has been excellently designed, and the bureau is to be congratulated upon having such a modern and up-to-date structure.

The repair division is equipped with everything necessary for ordinary repair work, and the systematic arrangement of the equipment and the neat appearance of the shop is to be commended. The same comment can be made with regard to the meter division. It is suggested, however, that additional testing machinery be purchased in order to make possible the testing of new meters in series. With the present equipment meters can be tested only one at a time.

Purchasing.

Purchasing of supplies is done through the commissioner of public works and presumably by the purchasing agent. Most of the supplies are bought on open market orders as required, and an investigation of the records shows that more than 50 per cent of the supplies are

purchased directly by the bureau, and later approved by the purchasing agent. A general criticism of the purchasing methods of the city will be found in a section of this report devoted to purchasing. It is suggested in connection with the water works bureau, however, that more supplies be bought on contract and fewer by open market orders.

A Central Storehouse and Supply Yard.

In a city the size of Rochester it seems unnecessary to have more than one central storehouse and supply yard for all city departments. In the proposed reorganization of the department of public works a suggestion is made for a central storehouse and four distributing points in the four quarters of the city. Inasmuch as it is desirable that all cost records be kept in the central accounting and records bureau, the stores accounts for this central storehouse also should be kept by this bureau. It is believed that the above system could be used for the water works bureau as well as for other city bureaus and departments, and thus do away with a water works storehouse and pipe yard.

The Pumping Station.

As stated in the opening paragraph of this report, the central portion of the city is equipped with a separate high-pressure fire service and the water for this service is pumped directly from the river into a separate system of mains. The main pumping station is a steam plant, and there is also an auxiliary electric plant.

The pumping station appears to be in a fairly satisfactory condition, but sufficient attention is not being paid to the cost of operation. It is stated that the amount of water pumped is immaterial, since the supply is purely for fire service and must be maintained regardless of cost. The only requirement placed upon the engineer of the plant is that he shall keep the mains full under an average pressure of seventy pounds, and a fire pressure of 140 pounds.

The argument that the plant must be maintained regardless of cost has no effect upon whether the plant is being operated efficiently. The necessity for the plant does not release the bureau from operating it at as low a cost as possible. In order that the cost of operation may be ascertained, the amount of water pumped must be known. Reference has been made under the section "Administrative Control" to the form of records which should be kept at the pumping plant. It is suggested that the data required by such a form or forms be made available by the installation of a Venturi meter on the supply line. Regular tests should be made for determining the percentage of slip if the pumpage is to be computed from plunger displacement.

Statement of Bonded Indebtedness as at December 31, 1913, Showing Actual Sinking Funds Available for Redemption of Bonds as Compared with Sinking Funds Established on an Actuarial Basis.

SINKING FUNDS, DECEMBER 31, 1913.													
Date of Issue....	Description.....	Rate of Interest..	Term (Years)....	Date of Maturity.	Total Amount of Bonds Issued and Outstanding at Date.....	No. Years Elapsed Since Issue.....	Number of Years to Run.....	Annual Appropriation.....	Amount of Annual Installment Necessary for Redemption at Maturity.....	Actual Cash and Securities	Computed on 3½% Actuarial Basis.....	Excess.....	Deficit.....
July 1, 1904	Hemlock Lake Watershed Loan	3½%	20	July 1, 1924	\$ 170,000	9	10	\$18,500.00	\$ 6,449.86	\$ 330,005.62	\$ 66,875.35	\$159,692.59	
July 1, 1908	Hemlock Lake Watershed Loan	3½%	10	July 1, 1918	200,000	5	4		19,289.20		103,437.68		
July 1, 1894	Water Pipe Extension Loan...	3½%	20	July 1, 1914	235,000	19	0	15,000.00	8,915.98	273,387.94	235,000.09	38,387.85	
Oct. 1, 1892	Additional Water Supply Loan	3½%	49	Feb. 1, 1942	500,000	21	28		3,980.83		120,497.62		
Oct. 1, 1893	" " "	4%	49	Feb. 1, 1943	300,000	20	29	30,000.00	2,388.50		67,546.02		
Oct. 1, 1894	" " "	3½%	49	Feb. 1, 1944	950,000	19	30		7,563.59		199,354.91		
July 1, 1903	Refunding Water Loan.....	3½%	30	Jan. 1, 1933	2,697,000	10	19		55,141.19		646,882.98		\$730,291.95
May 1, 1905	Water Funding Loan.....	3½%	30	May 1, 1935	360,000	8	21	18,490.00	7,360.34	456,062.09	66,623.49		
Jan. 1, 1912	Water Works Improvem't Bonds	4%	30	Jan. 1, 1942	1,000,000	1	28		20,455.38		20,455.38		
Jan. 15, 1913	Water Loan.....	4½%	20	Jan. 15, 1933	1,849,000	1	19		65,382.64		65,382.64		
					\$8,261,000			\$81,990.00	\$196,927.51	\$1,059,455.65	\$1,592,056.16	\$198,080.44	\$730,291.95
SAME AS ABOVE COMPUTED ON A 4% ACTUARIAL BASIS													
July 1, 1904	Hemlock Lake Watershed Loan								\$ 6,143.56		\$ 65,016.04		
July 1, 1908	Hemlock Lake Watershed Loan								18,898.53		102,360.86	\$162,628.72	
July 1, 1894	Water Pipe Extension Loan...								8,492.57		234,999.85	38,388.09	
Oct. 1, 1892	Additional Water Supply Loan								3,428.56		109,608.32		
Oct. 1, 1893	" " "								2,057.14		61,257.67		
Oct. 1, 1894	" " "								6,514.26		180,257.58		
July 1, 1903	Refunding Water Loan.....								50,919.17		611,341.00		\$650,002.04
May 1, 1905	Water Funding Loan.....								6,796.77		62,626.98		
Jan. 1, 1912	Water Works Improvem't Bonds								18,879.93		18,879.93		
Jan. 15, 1913	Water Loan.....								62,092.65		62,092.65		
									\$184,223.20		\$1,508,040.88	\$210,016.81	\$650,002.04

The coal purchased for the pumping plant is bought on contract, but the specifications simply state that the coal shall be of best quality. No tests of any kind are made or required. In the section of this report dealing with purchasing reference will be found to the saving resulting from the purchase of coal on the "B. T. U." basis. It is suggested that all coal bought for the pumping station be purchased on this basis, and that it be tested, as delivered, in the city testing laboratory.

CITY GARAGE.

The city garage is a development of the old municipal barn and is a service garage for the entire city. It is located conveniently to the City Hall and provides storage facilities for thirty-three cars owned by the city and four owned by city officials. In addition thereto the garage issues supplies to and repairs cars and motorcycles for the bureau of police of the department of public safety.

Although the city garage is considered a division of the bureau of streets and sewers, of the department of public works, and the accounts are kept there, the superintendent reports directly to the commissioner. Hence the garage is in effect a bureau of the department of public works. There may be a question as to whether or not the garage may rightfully be considered as a public works activity, but, inasmuch as the greater part of its service is in connection with this department, it is deemed advisable to retain it in the organization.

Purchase of Supplies.

Supplies, stores, and spare parts are purchased in open market according to the regulations prescribed by the board of contract and supply. No attempt is made to take advantage of large quantities ordered and the prompt and sure payment of claims to obtain a better price. Nor is there any attempt to consolidate the purchases of the other garage or to purchase in advance on estimates for a period.

Control Over Cars.

Officials to whom cars have been assigned may use their cars at any time on official business. This rule applies also to Sundays. The official is to be the judge, though the garage superintendent is supposed to report unofficial use of the cars. The daily report does not show where the cars go, and there is no way of determining whether or not cars are being used on business or for pleasure.

This loose method invites the free use of cars. The places visited and character of each trip should be shown on reports to be rendered by the drivers.

Water Works Garage.

Another garage operated by the city is located at the water works shop. This garage furnishes storage facilities for the thirteen cars used by the water works bureau. The location of this garage apart from the

city garage is justifiable because of the greater convenience in storing the cars near the repair shops and yards where they will be needed. The decentralization of control, however, is unnecessary, and it is suggested that the foreman of the water works garage be placed under the supervision of the chief mechanic of the city garage. Such an arrangement should contribute to better service by both garages and secure more economy in purchasing.

Unit Costs.

The expense system in use provides for compiling costs of operation and maintenance on a mile basis. To justify the system and serve the useful purpose for which it was intended and is needed, the average cost per car per mile for gasoline, tires, oil and repairs, the kind of car, date of purchase, number of seats, use, etc., should each be shown in periodical statements submitted to the administrative head of the department. It did not appear that adequate statements have thus far been rendered either to the commissioner of public works or to the comptroller. It is futile to prepare unit costs unless they are used to advantage in current administration. Variations in mileage costs between similar cars similarly used should require satisfactory explanation in each case. For example, why did the mileage costs during 1914 for two practically new Fords in the public works department having a mileage of 5,421 and 4,001 miles respectively appear on the records as \$.068 and \$.154 and of two other Fords of the same character with a mileage of 5,667 and 2,819 respectively at \$.116 and \$.122? Who was responsible? Of the \$.202 per mile cost for a Ford purchased in 1910, was the excess cost all caused by repairs? If it cost \$.352 per mile to operate a Cadillac purchased in 1906 would it be better economy to scrap it and buy another Ford, if the latter can be operated at a cost so much lower? Why did the new two-passenger Overland cost \$.16 per mile?

MARKET BUREAU.

Organization and Functions.

The municipal market is organized as a bureau of the department of public works, and is in charge of a superintendent of markets who reports directly to the commissioner of public works. In the general administration, supervision, and inspection of the market he is assisted by an assistant market master and a minor inspector, while the cleaning and general caretaking of the market is provided for by four laborers.

Location of the Public Market Unsatisfactory.

It has long been recognized that the public market is not fulfilling its purpose, insofar as the retail buyer is concerned. The Rochester Chamber of Commerce has been making an intensive study of the market problem, but at the time of making this survey the report was not available for analysis. The scope of the study by the Bureau of Municipal Research did not permit a study of the commercial aspects of the market problem or of available sites for other markets. To sum up the facts as to the present market site:

- 1—The purpose of selecting the present site was to make the market convenient for the truck gardeners in the northern and eastern outskirts of the city. Little consideration was given to its convenience for the retail buyer.
- 2—The section of the city in which the market is located is sparsely settled and too far removed from the trolley lines.
- 3—The proposed location of a market on the west side of the city is said to be open to criticism on the ground that the farms on the western outskirts of the city are largely given over to the raising of hay, and would therefore not be patronized to an extent commensurate with the cost of conducting such a market.

Considerations Which Should Be Met.

It is desirable, of course, that a wholesale market be maintained, and the present location is satisfactory for such a market. It is equally, perhaps even more, desirable that opportunity be given to retail buyers to purchase fresh farm products at as low cost as possible. If a market is opened somewhere in the center of the city for retail buyers only, the question of its advantage and disadvantage to merchants in the immediate vicinity of such a market immediately comes up. The business of green grocers in the immediate neighborhood will, of course,

suffer, for the retail buyer will go where he can buy cheapest, i. e., to the public market. The farmer who comes to the market has to pay a nominal fee only for his place at the market; he has no clerk hire to pay, and no expense for rent, delivery, light, telephone, etc. The retail green grocer, however, has all these and more to pay, and he must therefore sell his goods at a higher rate than the farmer, if his business is to be successful. As a result, the opening of public markets has in many cities ruined the business of the green grocers in the vicinity. On the other hand, the public market is a great benefit to the consumer. He is able to buy fresh goods at low cost, and as a result his money goes farther in buying other necessities.

Every effort should be made to reduce the cost of living in Rochester. If this can be done without making it unduly hard for the retail merchants, so much the better.

A certain advantage is gained by merchants other than green grocers in having a public market located near the business center of the city. On market days the attraction of the retail public market brings citizens downtown into the business district in greater numbers than usual, and this, of course, means prospective buyers for department stores, clothing stores, and other stores which do not handle farm produce.

Three Public Market Plans.

According to the report of the committee on markets, prices, and costs of the New York State Food Investigation Commission in 1912, the cost of food supplies at transportation terminals is about 45 per cent. less than to the ultimate consumer in his home, and this addition to the price chiefly represents the cost of handling and not profits. The problem then in reducing the cost of living, in so far as food supplies are concerned, is one of reducing costs of transportation, storage, selling and delivery.

Municipal markets are maintained in many cities of this country. Properly controlled, they have been found to be of decided benefit to the general public. In general, three methods may be described:

- 1—The curb market where farmers bring their wagons and sell directly to the retail buyers, eliminating all middlemen. Such a market is, of course, useful only during the summer months in places where cold and snow make such practice difficult.
- 2—The combination curb and market house plan, the places or stalls at the curb being used chiefly by farmers and the market house booths by other provision dealers.
- 3—The market house plan, which provides a market building in which stalls are leased to dealers.

The first plan is in successful operation in Detroit, South Bend, Niagara Falls, and some other cities. The chief difficulty under this plan is in the operation of such a market during inclement weather. The combination curb and market house plan is the plan in most general use, and is in successful operation in Des Moines, Dayton, Dubuque, Indianapolis, and San Antonio, and a large number of other cities. The market house plan is in successful operation in St. Paul, Ottawa, St. Louis, Louisville, and a few other cities.

It would seem from the experiences of most cities that the combination curb and market house plan is the best one. It gives the consumer the opportunity of buying directly from the producer in season, and in out-of-the-season months it permits his buying from some one as near the producer as possible. The adoption of such a plan would require the construction of a market building with properly equipped booths and stalls, and also a curb market place or plaza for use by farmers with their wagons.

In a report made by J. F. Carter, Secretary of the San Antonio Chamber of Commerce, after an exhaustive study of public markets in the United States, the statement is made that "the cost of living will be lowered through market channels when the ultimate consumer is the consumer at the market and when the selling is done by the originator or producer. No commission men should be allowed space in the markets for the sale of products which can be offered by the producer at retail during the months when he is producing. The consumer should not be denied the opportunity of buying, in out-of-season months, as near the producer as it is possible to get."

Control of Public Market by Bureau of Health Recommended.

In the report on the bureau of health the need for more thorough supervision of the food supply has been pointed out. It is recommended that the present market bureau be transferred to the bureau of health of the proposed department of health and charity, in order that the service to be rendered by the public market may be brought into closer cooperation with the service now being rendered for the protection of health and the promotion of social welfare.

General Condition of Market Excellent.

No criticism can be offered regarding the physical conditions at the public market or of the present method of supervising the leasing of stalls. Good order is maintained at all times, and the superintendent and his employees are apparently making every effort to see that both buyers and sellers are fairly dealt with.

BUREAU OF WEIGHTS AND MEASURES.

GENERAL STATEMENT.

The following report on the survey of the bureau of weights and measures is made as the result of an examination of the records of the office, a field study, and an inspection of the equipment of the bureau.

The conditions observed in the field showed a general absence of crude and fraudulent weighing and measuring devices. The scales in use, for the most part, were found to be modern and not of a type conducive to fraud. With few exceptions, they were placed in positions where the purchasers could easily read the weighings.

The supervision exercised by the sealer over his deputies was found to be good, but the method of selecting the assistants defective, no provision being made for securing trained men for the service.

It was possible to make this study in the short time allowed only because of the earnest cooperation of the sealer of weights and measures. All of the tests made in the field were made by the sealer himself.

ORGANIZATION.

The Bureau.

The bureau of weights and measures is organized pursuant to law as a branch of the department of public works. It is under the immediate supervision of a sealer of weights and measures, who is appointed by the commissioner of public works and holds office at the pleasure of the commissioner. The present incumbent of the office of sealer was originally appointed in 1904 by the mayor. His salary is \$2,200 per year. He is directly responsible to the commissioner of public works, but, in accordance with the state laws, he is also under the supervision and subject to the orders of the state superintendent of weights and measures.

Sealer's Assistants Selected from Labor List.

The staff of the sealer consists of six "assistant sealers" who are paid \$60 per month. The title "Assistant Sealer" is an office title not provided for by law, the legal title being that of "Minor Inspector."

Although the duties of an assistant sealer include the technical inspection and examination of scales, which require a thorough knowl-

edge not only of weighing and measuring devices, but of elementary mathematics and physics, the assistant sealers are appointed from the civil service list of laborers. They are not required to have any special qualifications for the position, or to subject themselves to a competitive examination.

Qualifications.

In the prosecution of violations of the weights and measures statutes, particularly those with relation to possession of fraudulent weighing or measuring devices, or a fraudulent use thereof, it is necessary that the assistant sealer bringing prosecution be prepared to qualify as one thoroughly conversant with weighing and measuring devices and trained in the testing and inspection of them. Therefore, the grade of inspector of weights and measures should be established, and the civil service commission provide specifications for the position which would require that applicants prove by mental and practical tests their knowledge of weighing and measuring devices, their construction and their use; and the position should be placed in the competitive class.

PROCEDURE.

Assistant Sealers Travel in Pairs.

For purposes of conducting the routine inspections, the city is divided into two districts, and two assistant sealers traveling together are assigned to each of the districts. The assistants are supplied with a horse and wagon and a full testing and sealing equipment. They travel over a given route and inspect the stores in the order of their location.

The contention that it is necessary to have two inspectors travel together in order to serve each other as witnesses in cases resulting in prosecution, and that it is essential to have inspectors equipped with complete testing instruments necessitating their using a horse and wagon on routine inspections, are not based upon the best practices. The fact that the inspectors or assistants have a horse and wagon destroys their efficiency as detectives, as the presence of the horse and wagon in a neighborhood serves as a warning to the dishonest merchant to prepare for the visit of the inspectors.

There is no more reason for having inspectors of weights and measures accompany each other, so as to serve as witnesses in prosecutions, than there would be for compelling policemen to travel in pairs. Furthermore, the small number of prosecutions made in the City of Rochester would not indicate that any great advantage was

gained so far as prosecutions are concerned. Therefore, it is recommended that the city be divided into four districts instead of two as at present, and that an assistant or inspector be assigned to each district and required not only to conduct routine inspections within his territory, but also to investigate complaints, conduct sporadic inspections, and enforce the provisions of the Brooks net weight law.

Permanent Assignments.

One assistant sealer is assigned permanently to the public market and the sixth member of the staff is assigned to the investigations of complaints and the inspection of "package goods" in the enforcement of the Brooks net weight law.

The sealer himself makes sporadic inspections and investigates important complaints.

Repairing of Defective Apparatus.

It has been the practice of the assistant sealers, in the course of their inspections, to correct weights which have been discovered to be incorrect on test, and for this purpose they include in their equipment tools required in the altering of the weighing and measuring devices.

Because of the practice of assigning the assistants to travel in pairs, and requiring them to repair defective weights and scales, the efficiency of the work of the bureau is materially reduced. Not only do the assistants lose much valuable time by the repairing of weights found inaccurate, but what is even more serious is the fact that merchants who keep inaccurate scales, weights, and measures, rely upon this practice as a protection against prosecution, for when the sealer or his assistant visits a store and finds there an inaccurate scale or defective weights, he invariably receives the assurance of the owner, "I have been waiting for you to come around and adjust them, and in the meantime I have made allowance for the inaccuracies by giving 'down weight'." Careless merchants, also, who are not intentionally dishonest, will make a practice of waiting for the annual or semi-annual visit of the assistant sealer before having their weighing and measuring devices tested and corrected. It is the duty of merchants to keep their weighing and measuring devices in perfect order, and they must be required frequently to have them inspected and tested, either through independent sources or at the office of the sealer. They should be discouraged from waiting for the visit of the sealer to determine the correctness of their devices.

It is as much the business of the merchant to make certain that his weighing and measuring instruments are accurate as it is to be certain that his cash register is in good order.

The number of routine inspections could be greatly increased and more time devoted to sporadic inspections if the sealer would abandon the practice of repairing defective scales, weights and measures.

“Sealer’s Kit.”

Each inspector should be required to carry only what is commonly termed a “sealer’s kit.” The equipment contained in this kit is such as to enable the inspector to make tests of the ordinary counter balance and spring scales found in use. The inspectors should not be required to make their inspections in the order of the location of the shops, but so to arrange their routes as to prevent merchants from knowing when to expect them. For purposes of testing large platform scales and large liquid and dry measures, the inspector could arrange certain days, from time to time, and upon such days he could use the horse and wagon for the transportation of the heavy weights necessary in such tests.

The work of the inspectors would be decidedly more effective if they were frequently transferred from district to district, so as to prevent their becoming too well known to the tradespeople in any one district.

Semi-Annual Inspection Required by Law.

The state law and the ordinances require that every scale, weight and measure within the city shall be inspected and tested by the sealer or his assistants at least twice in each year. Until recently the sealer found it impossible to visit all of the places in the city using weighing and measuring devices twice in one year. Within the last few months, however, his staff has been increased from four assistants to six, and an additional horse and wagon has been provided. With the two additional men and the extra horse and wagon, it is possible to comply with this section of the law, but in making two routine inspections of places of business using weighing and measuring devices, the bureau, while complying with the law, will scarcely be affording the protection to the purchasing public necessary to insure honesty in the use of weighing and measuring devices.

Sealers throughout the state, and in fact throughout the country, have long since become convinced that the majority of frauds perpetrated against the purchasing public by dishonest merchants are the result of scale manipulation rather than the use of inaccurate or fraudulent weighing and measuring devices.

Routine inspections do not serve to discover the merchant who perpetrates fraud through scale manipulation. Some of the most dishonest tradesmen are included among those who have the most efficient and best maintained weighing and measuring devices. Routine inspections conducted daily in the shops of such tradesmen would not serve to disclose dishonest practices through scale manipulation, but on the contrary, they would serve to mislead the purchasers in such a store, for they would give the dealer opportunity to declare that his scales had been pronounced accurate each day by the sealer of weights and measures. A routine inspection can only serve to show the condition of the weighing and measuring devices at the moment of inspection, and if the tradesman, knowing the requirements of law, realizes that it will be physically impossible for the assistant sealers to visit his store more than twice in one year, he need have no fear of being discovered manipulating his scales.

Annual Inspection Recommended.

It is recommended that steps be taken to have the state law amended so as to require only an annual inspection. The annual inspection is necessary, not as a means of discovering dishonest tradesmen, but for purposes of taking a census of the weighing and measuring devices in use.

More Detective Work Needed.

In company with the sealer, a field study of the weighing and measuring devices was made. Forty stores selected at random and located in various parts of the city were examined. One hundred and nineteen scales of various types were observed and tested. The result of these tests showed that, although 25 per cent. of the scales examined were incorrect and against the consumer in amounts varying from one-quarter of an ounce to one ounce, the city was to a large extent free of arbitrary measures, defective types of scales, and household scales in commercial use. Of the thirty scales found to be inaccurate, two were slow or against the owner, but all of the others were fast.

For the most part, the scales observed in use were so placed as to be read easily by the purchaser, and none were found with fraudulent attachments or defective dials. Many packages put up by the grocers were reweighed and it appeared that, in the majority of cases, the grocers did not make allowances for the weight of the wrappings, thus violating the Brooks net weight law.

Group Inspections Effective.

Group inspections made sporadically have been found to be most effective, not only in checking the work of the inspectors, but also in making dishonest tradesmen realize that the activities of the sealer are such as to make it difficult for them to practice fraud.

By group inspections is meant a tour of observation by the entire staff under the direct supervision of the sealer. This is done by assembling the inspectors at a given point without informing them just where the inspections are to be made. The inspectors, instead of carrying a regulation kit, merely carry seven or eight pounds of test weights. No attempt is made during such inspections to test out scales to their capacity, but merely to observe whether the scales are accurate on observation and respond to the test weights up to the amount of weights carried. Packages are reweighed, and usually no certificates are issued on these inspections.

Only a few blocks in each district are examined, and the squad is then shifted to another neighborhood. In this way 120 to 130 inspections could be made in one day in parts of all four proposed districts.

This field study indicated the need for detective work in the form of sporadic inspections and purchases. Many of the dealers professed ignorance of the provision of the law requiring them to allow for the weight of the wrappings.

Woman Inspector Needed.

To perform the kind of detective work necessary to discover dishonesty in the use of scales and frauds in the delivery of commodities, it is essential that many purchases be made and the packages reweighed. To do this with the best results, it is necessary to employ the services of a woman inspector as shopper. This woman should be constantly making purchases throughout the city and reweighing the parcels in order to discover the merchants who are practicing fraud. The commodities thus purchased could be delivered or sold to city institutions, such as hospitals, jails, etc. The superiority of a woman purchaser has been fully demonstrated in New York City.

Pending the appointment of a woman inspector, the sealer should seek cooperation of the commissioner of public safety and endeavor to obtain the services of the police woman for this work from time to time.

Use of Term "Sealed" Should Be Abandoned.

Upon each inspection and test, the inspector places what is

termed a "seal" upon weighing or measuring devices. This seal is a small printed paster which contains the name of the city, the date of the examination, and the initials of the inspector. The use of the paster, as a means of marking the weighing device so examined, is most inefficient, since it either falls from the scale or measure or soon becomes so soiled as to be illegible. In the field study, only a few of these seals could be found upon scales, and these had been attached but a few days before.

A seal upon a scale, although intended to be a guide to the public as to the accuracy of the scale, is nothing more than an indication to the sealer that the owner of the scale or measure has complied with the law by causing the scale to be tested and stamped before using it. The seal further aids the sealer in checking the work of his assistants in the field. Its use with relation to the public is misleading and serves as an aid to a dishonest merchant. The term "sealed" is only too frequently understood by the housewives to mean that after the scale has been tested by the inspectors, it has been sealed or locked in such a way as to prevent fraudulent use. Consequently, the unsuspecting housewife, observing the seal upon a scale which in fact is inaccurate, is led to believe that it is an accurate weighing instrument. Therefore, the sealer should make clear, in his literature and through the newspapers, that the stamp of his bureau upon a weighing or measuring device is no guarantee of its accuracy. The use of the term "sealed" should be abandoned as far as possible.

The sealer should adopt a new form of stamp, preferably a metal tag upon which should be stamped the seal of the city. This tag should be so affixed as to prevent its removal and reattachment to a scale which has not been inspected.

If it be deemed wise to use a paster label for spring scales, a different colored paper should be used for each month. By this means, it will be possible to tell by the color of the paper, even if the label should become soiled, the month the scale was inspected.

Necessity for New Ordinance Giving Sealer Added Power.

The bureau is now operated under the state business laws and a few local ordinances. The local ordinances are wholly inadequate in that they do not provide the sealer with adequate power for condemnation and confiscation, or the right to make and enforce under penalty, the rules and regulations governing the manufacture and use of scales, weights and measures. The ordinances now in use in the cities of New York, Los Angeles, and Chicago are recommended as types from which a proper ordinance could be drawn for use in the city of

Rochester. It is important in the administration of the affairs of this bureau that the sealer have power to promulgate rules and regulations. For example, the sealer should be empowered to require owners of scales, weights and measures of a small type to bring them to the office of the sealer for original test or for reinspection after condemnation. This would save considerable of the inspector's time now consumed in reinspecting condemned scales.

A penalty should be provided for the removal by any officer other than an inspector of a condemnation ticket from a scale, and the sealer should be empowered to direct owners to place scales in their shops in such a position as to enable the customers to read the weighings without difficulty.

Cooperation With License Bureau Necessary.

The ordinance should provide that all bureaus or departments of the city government having power to issue licenses include in the application forms for licenses the following:

Do you intend to use in connection with the business about to be licensed, any scales, weights, measures, or any weighing or measuring device whatever?

If so, state here the number, amount, and capacity of scales, weights, and measures to be used.

In kinds of business where scales, weights, and measures are to be used, the bureau heads should be required to forward to the sealer of weights and measures a memorandum or notice of the application for the license and the answer to the questions contained thereon, and no such license should be issued until the sealer has certified to the licensing power that he has tested and approved the weighing and measuring devices owned and used by the applicant at the place of business.

QUARTERS AND EQUIPMENT.

Inadequate Office Space.

The office of the sealer of weights and measures, as a sub-division of the offices of the department of public works, is located on the fourth floor of the City Hall. The space allotted is wholly inadequate and the location of the offices on an upper floor of the City Hall is wholly undesirable.

If the office of the sealer of weights and measures is to result in the greatest amount of service to the purchasing public and the merchants as well, it is essential that the housewives of the city and the merchants be as familiar with the location of the headquarters of the

weights and measures bureau as they are with the City Hall itself. Spacious headquarters on the ground floor, preferably in a store on one of the most prominent thoroughfares, should be provided for the offices of the sealer and arranged so as to provide for a mechanical workshop. A conspicuous sign should be placed on the outside, indicating the location of the bureau, and housewives and merchants should be encouraged to visit the office for the purpose of having small types of scales inspected and tested, and packages reweighed.

Test Equipment Adequate.

The test equipment and apparatus of the bureau is adequate except that the large standard balance should be enclosed in a glass case so as to keep it perfectly free from dust and from contact with draughts. The balance is the standard of the office and is used to compare the weights which are used in the field. It is a highly sensitive instrument and as such responds to any draughts of air. Therefore, it should be kept in perfect condition and well protected.

Equipment for a properly conducted mechanical division should be supplied, with troughs for testing liquid measures, a machine standard for marking large quantities of dry measures, and the other apparatus essential to the maintenance of a properly organized mechanical division.

The assignments of the inspectors should be such as to provide that at all hours during the day, there should be available an inspector at the office. The inspector could, in addition to emergency services, make tests, meet the public, and perform the clerical work.

The office should be equipped with a motorcycle having attached to it a compartment for carrying a sealer's kit, and it should be used by the office inspector in responding to emergency calls in the field; at such times as he would leave the office to investigate complaints, the sealer himself should remain in the office.

Owners of Large Platform Scales Should Provide Test Weights.

To test large platform or automatic hopper scales, it is necessary that the sealer haul more than a ton of standard test weights. Owners of these types of scales should be requested to provide at least a ton of these standard test weights, which should be kept in a cabinet near the scale and under lock and key. By means of this commendable practice, it is possible not only for the owners to test their own scales frequently, but also for the inspector or sealer to make frequent tests without the necessity of hauling bureau standards. At least once in each year, these weights should be compared with the department

standards. If the co-operation of the coal offices owning large scales can be secured in this matter, it would be more economical and efficient for the city to provide these test weights and to require by ordinance that the owners of such scales furnish a bond for the safe-keeping of the standards.

Public Scale Controlled by Sealer.

There are two public scales in the city, one owned by the city and the other privately owned. The one owned by the city is at the public market, placed, operated and maintained by the marketmaster.

The absence of public scales throughout the city makes difficult the enforcement of the coal reweighing law. Because of the absence of scales, the sealer is frequently unable to reweigh large deliveries of coal.

The installation of large wagon scales, either publicly owned and operated or privately owned and operated by licensed weightmasters permitted to charge a fee, should be encouraged. At least, the sealer should have a larger wagon scale under his control and for the exclusive use of the department and the public doing business with it.

Need of Motor-Driven Wagon.

The bureau operates two horses and wagons. It would be more efficient and more economical to purchase and operate one motor-driven wagon, which could be specially built and properly equipped for use in making tests of large wagon scales.

RECORDS AND REPORTS.

No Certificate of Inspections Issued.

The assistants do not issue certificates of inspection, nor is there provided any special form for the inspectors to use in reporting upon their work. Each day the assistants file an informal report, listing the names of places visited, the apparatus inspected, and the result of their inspections in case inaccuracies are found. These reports are copied into a large bound book having printed headings. No special records of violations or prosecutions are maintained, such matters being noted under the heading "Remark" in the large record of inspections. No card index of merchants is maintained, nor is there any special method employed in regard to condemnations or re-inspections.

Records Which Should Be Maintained.

It is recommended that provision be made immediately for recording the activities of the sealer and his assistants by establishing the following records:

Citizens' Complaint Book.

In this book should be recorded the day, date, time, name and address of person making complaint; name and address of firm or corporation complained of; character of complaint; the result of the investigation; and when and by whom the complaint was investigated.

Record of Violations and Prosecutions.

This should be a card record of all violations discovered, showing the date, day and time violation discovered; the name, address, location and character of store or business, a detailed description of the violation reported and the action taken upon it.

Record of Confiscation.

This record should be kept in a bound book, showing the day, date, time, place, reason, and a detailed description of the scales, weights, and measures confiscated.

Card Index of Merchants in City

Using Weighing and Measuring Devices.

A card record of merchants will be comparatively easy to maintain if the inspector is provided with a proper form of certificate of inspection. Certificates of inspection should be in a bound book, which should contain three duplicate copies of each certificate, with carbons between them. The first certificate, or original, should be given to the owner of the inspected scales, etc., the second, which should be printed on much lighter paper, should remain permanently bound in the book; the third, which should be printed upon stiff cardboard, should be removed and filed in the office of the sealer. These cards would then form a card record of all the merchants whose scales, weights, and measures are inspected. They should be filed according to streets, subdivided as to class of business, and cross-indexed as to the name of the firm or corporation. The procedure would be for the sealer and his assistant, each morning before leaving the office, to remove

these cards from their book, and place them in their proper position in the files. Upon the back of these cards should be proper printed headings calling for information concerning any violation found. Space should be provided upon which to enter the final dispositions in such cases. Thus, upon one card would appear the name, address, class of business, number, and kind of weighing and measuring devices, date inspected, condition in which they were found, a record of any inaccuracy or any violation of law, and the result of the proceedings against the owner.

Record of Inspections.

The present form of record of inspections should be maintained, as it is in accordance with good practice.

Annual Report.

In order to indicate the efficiency of the work, and to be of real statistical value, the annual report of the division of weights and measures should contain the following tables:

1—A table of places inspected by character of business, including the following headings:

Character of business.

Total number of inspections.

Number of violations found.

Number of inspections where no violations were found.

Penalties imposed.

Arrests made.

Convictions in criminal cases.

Cases where more than one violation was discovered in a year.

Under the first heading should be included:

Bakers.

Butchers.

Butter dealers.

Caterers.

Coal Dealers.

Coal wagons.

Produce commission merchants.

Candy and confectionery.

Milk and cream dairies.

Delicatessens.

Drug stores.

Dry goods.

Feed and grain.

Fruits.

Fish, etc.

- 2—A table showing inspections of peddlers and hucksters, as differentiated from inspections of stores and regular mercantile establishments. Inspections of pushcarts and hucksters in the field are made so quickly and with such little difficulty that a proper impression of the efficiency of the bureau is not given if they are included in a general table of inspection. A combined table does not enable the reader to determine whether fraud or carelessness is greater among peddlers than it is among storekeepers.
- 3—A table showing tests made of institutional and city department scales.
- 4—A table showing classification of apparatus, and number of each type condensed and violations put upon them.
- 5—A table showing apparatus confiscated and destroyed as well as condemned, a term used in the sense of disapproval.
- 6—A table showing number and classification of new scales, weights, and measures sealed during the year. This table would show the number of new apparatus coming into use, bringing added responsibility and work to the bureau.
- 7—A comparative table by years, showing number of routine inspections made as against special inspections. By routine inspection is meant the annual inspection required by ordinance as against the special inspections because of installation of new apparatus, or on suspicion, or on complaint of citizens.
- 8—A table of purchases made for the purpose of testing, not the scales, but the manipulation of the scales and the results found. This table should also show the amount of money spent by the bureau and its inspectors in purchases, as well as the disposition of the commodities purchased. For example, if an inspector purchased a ham for the purpose of testing the honesty of the butcher, this table should show the cost of the ham and the disposition made of it—whether it was turned over to a city institution or hospital, etc.
- 9—A table showing the number of tests made of packing companies' products and results.
- 10—A table of complaints received.
- 11—A table showing number of household weighing equipments tested upon request. The purpose of this table should be to show the number of families equipped with scales for their own protection.

- 12—A table showing the number of inspections made by each inspector or deputy, arranged by months; the number of violations and condemnations made; arrests, convictions, penalties or fines imposed. Such a table should include the following headings:

Inspector's name.

Total number of inspections made.

Number of articles condemned.

Number of violations.

Amount of money collected.

Number of arrests.

Dispositions.

- 13—A table showing, by classification as to business, the number of inspections and violations in public markets.

- 14—Tables showing, under classification as to business and apparatus, violations where actual fraud was practiced, classified as follows:

Tampering with a scale.

Fraudulent instrument.

Operators of scales detected manipulating.

Scales Confiscated Should be Reported.

The report should contain a table showing the number and kind of weighing apparatus condemned and confiscated, and attention should be called therein to the difference between a condemned scale and a confiscated scale. It is the experience of sealers of weights and measures throughout the country that in reporting scales condemned the general public confuses this term with scales confiscated. The report should show not only the number of scales condemned and confiscated, but the disposition made of them.

Publicity an Aid to Efficiency.

The most effective aid to the enforcement of the weights and measures ordinance is publicity. A dishonest merchant has no fear of prosecution which results merely in a fine. The most practical method of securing the publicity necessary to punish a dishonest dealer is by printing in an annual report a list of the merchants prosecuted during the year, with their names, addresses, and the character of the violations. Great care should be taken in compiling this list, so as not to work an injustice to any merchant. Violations due to carelessness, such as unclean stores, should be stated and the violations resulting in prosecutions for deliberate fraud should be made clear.

A brief history of the frauds discovered during the year should be published to serve as warning to housewives.

PROPOSED REORGANIZATION OF THE DEPARTMENT OF PUBLIC WORKS.

The present organization of the department of public works is shown on Chart "E" and a proposed reorganization on Chart "EE" herewith.

The weaknesses of the present organization have already been pointed out in this report. The proposed reorganization would not only unburden the commissioner of much of the detail with which he is now encumbered, but would result in a more complete centralization of executive authority, and thus enable him more effectively to administer the functions of the entire department. The commissioner is a member of the board of contract and supply and under the proposed reorganization he would also become a member of the board of estimate and apportionment. Because of the demands on his time on account of such membership, because of his many other duties and owing to the necessity for his keeping in personal touch with the public at all times, it would seem advisable to leave him as free as possible from the minutiae of routine administration.

With this in view, it is proposed to make the deputy commissioner of public works an active executive. The deputy commissioner would exercise general supervision over the entire department but would be practically isolated from the public. He would receive all reports and would confer on routine matters with the bureau and division heads. In this connection it is suggested that an inter-department telephone system be installed in order that the administrative and executive heads of the department may be able to communicate with bureau and division heads more readily than is possible at present.

The necessity for staff advisors has been generally acknowledged in recent years and provision is made in the suggested reorganization for such advisory service to the commissioner. The advisory staff would be composed of two parts, the first being consulting experts, and the second staff inspectors. The staff inspectors need not be technically trained, but they should be men of matured judgment and capable of representing the commissioner on occasion. Their duties should include the investigation of complaints brought to the personal attention of the commissioner and they should report to him on the various matters affecting the efficiency of the department.

The suggested reorganization also provides a secretary and stenographer for the commissioner. The secretary should receive all complaints, calling such of them to the attention of the commissioner as may be necessary and referring the others to the various bureaus in the department for investigation and report. This service should be in addition to his ordinary secretarial duties; such as the interviewing of visitors, the making of appointments for the commissioner, attending to routine correspondence, etc.

The present organization of the department of public works includes the market bureau and the bureau of weights and measures. These bureaus are in no way connected with ordinary public works functions and in the suggested reorganization they are omitted.

The suggested reorganization provides for the following bureaus, the functions of which will be described in detail following:

- Bureau of Accounts and Records.
- Bureau of Engineering.
- Bureau of Water.
- Bureau of Public Buildings.
- Bureau of Sanitation.
- Bureau of Sewers.
- Bureau of Highways and Bridges.
- Testing Laboratory.
- City Garage.
- City Shops.

Bureau of Accounts and Records.

This bureau would provide for a centralization of all of the book-keeping in the department, including all expense and cost accounts. The head of the bureau would be known as the chief accountant of the department.

A division to be known as the permit division should be established in this bureau. It would be charged with authority and responsibility for issuing all of the various kinds of permits now issued by the several branches of the department. Whenever a permit of any kind is desired from any bureau of the department of public works application would be made to the permit division of the bureau of accounts and records. The application should be made on a standard form, for each type of permit desired and should give all necessary details regarding the applicant and the kind of permit desired—the application to be written out by the applicant. He would then receive an acknowledgment of his application, but not necessarily the permit. Where possible, the approval of the bureau under whose

jurisdiction the permit lies would be obtained by the permit division. The permit would then be made out and certified by the clerk in charge of the division.

There should also be established in this bureau a division of cost accounts and statistics for the entire department, in which the cost and inspection records should be maintained.

A central payroll division to compile all payrolls is also provided for in this bureau.

Bureau of Engineering.

The head of the bureau of engineering would be known as the chief engineer of the department of public works. This bureau would be a service for all bureaus of the department of public works and for all other city departments. It is proposed to make this engineering service correspond to the engineering service furnished by consulting engineers to private corporations. For example, if the bureau of highways and bridges wished to have a street improved, it would call upon the bureau of engineering to furnish the necessary engineering service and inspection necessary for a satisfactory completion of the work. The engineering bureau would make the preliminary surveys, furnish the designs for the approval of the chief of the bureau of highways, let the contract and supervise the construction; but at the end of the construction work the bureau of engineering would turn over the completed improvement to the bureau of highways and bridges for operation and maintenance. The bureau of engineering would not have control of the financing of the improvement, nor would it have anything to do with the initiation of the improvement. Its service would be entirely that of consulting or construction engineers in private practice.

In case departmental labor be used for construction work, the engineering bureau would exercise the same supervision as in the case of contract work. The bureau of highways and bridges, which would furnish the labor under such conditions, would be temporarily in the place of the contractor.

The bureau of engineering would be composed of the following divisions:

1. Division of construction: this division would furnish on request all engineering and inspection service in connection with all construction work undertaken by the department of public works, or by any other department.
2. Division of design: this division would design all structures to be constructed by the city and would furnish drafting service in connection therewith.

3. Division of survey: this division would be practically a topographical division. It would have charge of and carry out all surveys other than those in connection with construction work. The head of this division would pass on all subdivision plans and see that they are in accordance with the city plan. This division would also prepare all local improvement ordinances, in order that all improvement work be in keeping with the city plan and in accordance with such definite work program as may be adopted.
4. Division of building inspection: the head of the division of building inspection would be known as the superintendent of the division. He should preferably be an architect. This division would have the approval of building plans and would have charge of all building inspection. The examination of stationary engineers would also come within the scope of activities of this division.

Bureau of Water.

The head of the bureau of water would be known as the chief of the bureau. This bureau would have practically the same functions as the present water works bureau. It would have charge of the operation and maintenance of the water works system and of revenue accounting in connection therewith.

Bureau of Public Buildings.

The head of this bureau would be known as the chief of the bureau of public buildings. This bureau would have charge of the operation, maintenance and care of public buildings and offices. It would be practically the same as the bureau of public buildings in the present engineering department.

Bureau of Sanitation.

The head of this bureau would be known as the chief of the bureau of sanitation. This bureau would have charge of street cleaning, street sprinkling and flushing, refuse collection, refuse disposal, and snow removal. The divisional organization recommended has already been set forth in detail in that section of the report relating to the sanitary service.

Bureau of Sewers.

The head of this bureau would be known as the chief of the bureau of sewers. This bureau would have charge of the operation and main-

tenance of the sewerage system. It would also operate the sewage disposal plants now under construction and the sewage pumping plant.

Bureau of Highways and Bridges.

The head of this bureau would be known as the chief of the bureau of highways and bridges. This bureau would have charge of the maintenance of the highway system, the maintenance and repair of bridges and the operation of the municipal asphalt plant.

The Testing Laboratory.

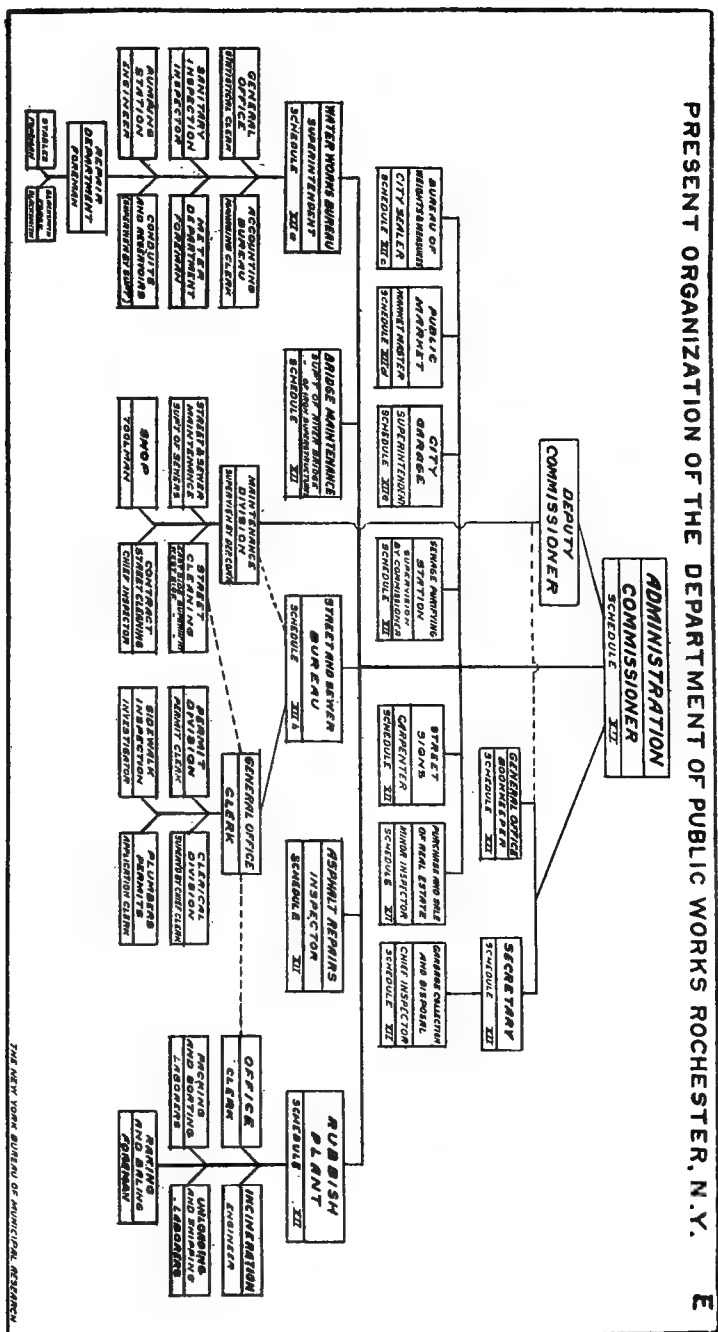
The head of the testing laboratory would be known as the chief of the laboratory. This laboratory would be a standard testing laboratory for all city departments. It would be an enlargement of the present testing laboratory in the engineering department.

City Garage.

The city garage would be practically the same as now organized, but it should include centralization of management and responsibility of the present water works garage, as there is no necessity for the present decentralization. The location of the water works garage would remain as it is, but the control over both garages should be vested in the chief mechanic, who should report to the commissioner in the same manner as the head of any other bureau of the department.

City Shops.

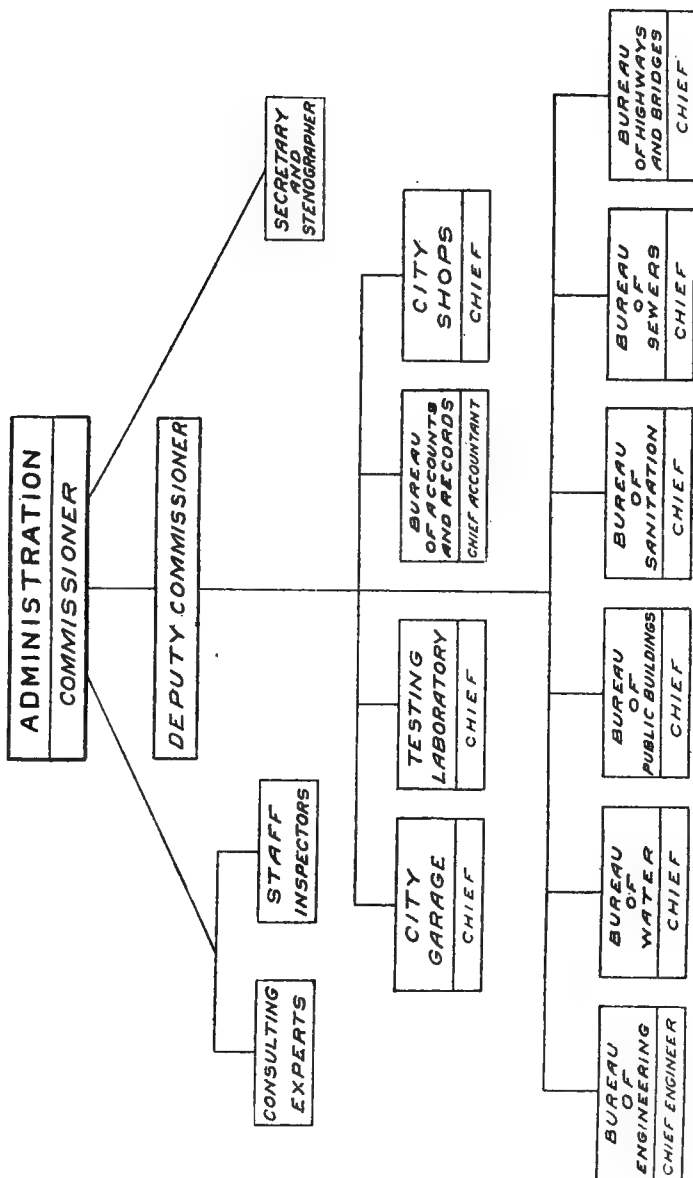
The city shops would include the present street repair shop and all other city shops, as it is uneconomical to have isolated small shops under various bureaus and departments.



PROPOSED REORGANIZATION OF THE

DEPARTMENT OF PUBLIC WORKS ROCHESTER, N.Y.

EE



DEPARTMENT OF ENGINEERING.

The department of engineering is authorized by Article X. of the city charter. The administrative head of the department is the city engineer who is appointed by the mayor and holds office during his pleasure.

The department of engineering is a service department for all other city departments. It has control over construction work in connection with the highway, sewer, and water systems, and supervises the construction, maintenance, and repair of municipal buildings. It also has direct charge of all surveying in connection with the city maps, and furnishes drafting service to all city departments.

ORGANIZATION AND ADMINISTRATION

A Reorganization Suggested.

Centralization of engineering service is excellent, but the activities properly belonging to the engineering department are not sufficiently distinct to warrant the existence of a separate department for this service. The service rendered is practically all in connection with improvements which later come under the jurisdiction of the commissioner of public works. To eliminate, as is now the case, all responsibility for maintenance and operation from those responsible for construction has been proved to be poor organization. A department charged with the care and maintenance of public works is essentially an engineering department and it is suggested, therefore, that the department of engineering be made a bureau of engineering in the department of public works. It is further suggested that the title of city engineer be changed to chief engineer of the department of public works.

The inner organization of the department of engineering is subject to criticism in several particulars. This organization is indicated on Chart "F" accompanying this report. The chart shows that there is an unnecessarily large number of small divisions within the department which in many respects appear to have similar functions. For example, the preparation of ordinances is vested in three different divisions, assessors' statements are prepared by two separate divisions, and there is a separation of water works construction from other construction. This scattering of like functions tends to bring much unnecessary detail to the attention of the administrative head

of the department, and the consequent diversion of his energy, to that extent, from more important work.

A suggested reorganization is shown on Chart "FF." This reorganization would apply equally as well to a department of engineering as to a bureau of engineering in the department of public works.

Under the proposed organization there would be a division of construction which would have supervision over all types of construction, including both engineering and inspectional service. This division would combine the functions of the present division of surveys for improvements, the division of inspection, the division of water works construction, and the division of sewage disposal. It would also include the construction work in connection with water works, conduit improvements, and the miscellaneous construction work now under the supervision of the principal assistant engineer.

A division of design is also proposed under the new organization. This division would design all structures, the construction of which is to be supervised by the department or bureau. It would include designs for local improvements, water works, and sewage disposal and would also furnish drafting service of all kinds.

A third division proposed is that of survey. This division would have supervision over and carry out all survey work, with the exception of that in connection with local improvements. It would pass on all subdivision plans in order that such plans might be in accordance with a proposed city plan. This division would also prepare all local improvement ordinances in order that they might conform to such work program as is adopted.

A fourth division proposed is that of building inspection, which would replace the bureau of buildings now in the department of public safety.

The proposed organization of the department of public works provides for a central testing laboratory for the city. As it is planned that this laboratory would take the present laboratory of the engineering department as a nucleus, the latter has not been included in the discussion of the reorganization of the engineering department.

Another division which disappears from the present organization of the engineering department is that of maintenance of public buildings. No reason is known for placing this work in the department of engineering, since it is purely a maintenance function and therefore rightly belongs in the maintenance department. In the proposed reorganization of the department of public works, provision is made for a bureau of public buildings which will replace the division now in the department of engineering.

For further details see the section of this report which outlines the proposed reorganization of the department of public works.

Administrative Control Criticized.

Conferences with division heads are now the chief means of administrative control used by the city engineer. The value of written progress reports does not seem to be recognized. The present method of control results in the city engineer wasting a great deal of valuable time with unessential details. Another result is that in most cases there are no written records showing the condition of the various contracts from day to day. It is a physical impossibility for any one man to have detailed knowledge of construction work when there are several jobs of any size in progress at one time. Daily progress reports from the inspectors in charge of each job are the only means of obtaining sufficient information with regard to the work.

During the construction season in Rochester there may be as many as sixty different contracts in force at one time. The impossibility of the chief inspector keeping in personal touch with each job each day is apparent. Consequently, the supervision exercised by the chief inspector is limited, and since the city engineer depends almost entirely upon daily conferences with his chief inspector for his knowledge of the work's progress, his supervision is even more limited.

It is suggested that daily progress reports be required of all inspectors. These reports should contain statements as to the progress of the work and they should give details as to workmanship, materials used, and reasons for any delays which may have occurred. They should be prepared on standard forms and bear the signature of the inspector in charge of the work. These reports should be submitted to the chief inspector and summarized by him each week for the chief engineer.

Another means of administrative control, viz., cost records, has also been neglected. In order that the administrator may know the efficiency of his department, bureau, or division, it is necessary for him to know currently the costs of carrying out each kind of work. A division of cost accounts and statistics has been provided for in the proposed reorganization of the department of public works, and the engineering bureau should install suitable daily records to permit of the compilation of unit costs.

There are no records at present to show costs of engineering and inspection in connection with construction work, nor are there records to show comparative contract costs. The inspectors' reports

mentioned above should include all necessary data for this purpose and the daily time reports of all other employees should show job costs.

New Filing Method Suggested.

All of the improvement maps and records are filed by years and indexed by wards and streets. Such being the case, whenever there is a renumbering of wards or whenever street names are changed, it is necessary to start a new index and to reindex all of the old records. The improved method of filing maps and records in use in most of the larger cities is known as the section, block and lot system. This system simplifies the filing methods and is much more elastic than the ward system. It is suggested that the present system of filing be replaced by the section, block and lot system.

Record Maps.

At present all record maps are kept in the engineering department. It is believed that the place for record maps is in the operating department, particularly in the case of maps of the water works system and the sewerage system. If these maps are kept by the engineering bureau, the operating department is without a most valuable record.

The value of complete subsurface records showing all pipes and conduits, both city owned and privately owned, is coming to be generally recognized. Most of the larger cities are at present plotting all substructures to a uniform scale on maps showing both plan and profile. It is suggested that Rochester follow out this plan and that maps be prepared and kept in the engineering bureau, showing all details of improved streets. These maps should include the street surface and all substructures, whether city owned or privately owned.

The record maps for the water works bureau are prepared by the division of water works construction in the engineering department as now organized. The duplication of drafting service resulting from this is unnecessary, and in the reorganization suggested above it is proposed to have all drafting done by one central drafting force.

A Permanent Inspection Force.

The present method of hiring inspectors only for the construction season must necessarily result in the inspection force not being composed of the highest class of inspectors. The inspection work in connection with construction of all kinds is one of the most important of the services of the engineering department. Good men cannot be

obtained unless they are assured of reasonably permanent employment. It is suggested that steps be taken to secure a small permanent force of inspectors who shall be kept on the payroll throughout the year, and who shall serve as a nucleus for and supervisors of the force employed during the construction season. These men can be employed during the winter in working up their notes and in assisting in the computations and making of plans for the next year's work. The plan will have special value after the adoption of a definite work program extending over a series of years, as suggested in another part of this report.

CONTRACTS.

Contracts for all local improvements, for water works extensions and improvements, for street lighting, and for street sprinkling, calcium chloride, etc., are prepared by the engineering department. Standard specifications have been developed for local improvements and with few exceptions they appear to be satisfactory.

One of the chief weaknesses in the present form of contract is that insufficient penalties are exacted for non-completion of the contract within the specified time. The penalty for absolute failure to complete is the forfeiture of a bond which is required with all contracts, but for failure to complete within the estimated time, the only penalty is the additional cost of inspection. This cost is estimated at \$4.50 per day, which is merely the daily wage of one inspector. Such a penalty is not sufficient to prevent contractors from lowering their bid prices by giving impossible estimates of time to complete.

In presenting a bid, the contractor estimates the time required for doing the work, and before the final comparison of bids is made, these time estimates are multiplied by the daily cost of the inspection and added to the total price bid. This means that in case two estimates for the cost of the work are the same, but the time estimate is different, the contractor putting in the lowest time estimate receives the contract regardless of how impossible it may be to complete the work within this time limit.

It is suggested that the preliminary estimates made by the engineering department include time estimates, and that these estimates be used in the same manner as are other unit estimates in order to prevent impossible bids by the contractors. It is further suggested that additional penalties for failure to complete within the specified time be imposed. The amount of the penalty must, of course, depend upon the contract price.

Specifications for Wood Block Pavements.

Rochester has had some unfortunate experiences with wood block pavements. This type of pavement requires careful construction in order that it may be satisfactory, and unusual care is required where it is to be used on streets on which there are car tracks. The discussion of the paving in the street railway area is considered in a separate section of this report.

In the section of the (Rochester) specifications relating to the laying of blocks, it is stated that "the block shall be carefully set with the fibre of the wood vertical in straight parallel courses at right angles to the curb." However, the type of construction which has met with the greatest success has in all cases provided for one or two rows of the block being set parallel with the curb. This method of construction allows for a suitable expansion joint and does much to eliminate the upheaving of the block which so frequently occurs.

Orders for Extra Work Should Always be in Writing.

Section 526 of the standard specifications for local improvements states that no extra work will be paid for unless it is done upon the written order of the city engineer. The decision as to what shall constitute extra work and what price shall be paid for it is left to the city engineer and is made by him as necessity demands.

It appears that the section of the specifications mentioned above is not observed and that orders for extra work, modifications of the plans, etc., are made verbally. This procedure may easily lead to disputes with the contractor as to what shall constitute extra work, and, furthermore, the records of a contract are not complete unless all changes in the original plans and all extra work done are shown in writing. It is suggested, therefore, that in the future, section 526 of the standard specifications be observed and that all changes in plans and orders for extra work be made only on the written order of the city engineer.

Reasons for Extensions of Time.

It is recognized that delays are frequent in all construction work, but it appears from an inspection of the records in the engineering department that time extensions are granted almost as often as requested. The specifications state that extensions will be granted only for reasons approved by the engineer in charge of construction. The records show, however, that only in exceptional cases are the reasons given for the granting of such time extensions.

In order that the records of each contract may be complete and in order that inquiries from property owners regarding the length of time required to complete the work may be answered satisfactorily, it is suggested that the engineer in charge of construction be required to set forth in his final report on each contract all reasons for granting extensions of time. This statement should form a part of the permanent record of the contract.

Final Estimates Are Incomplete.

In several instances the final estimates on a contract job were found to be almost double the amount of the estimate. This means that the assessment against the abutting property may be double the amount anticipated. In such cases, the property owners naturally inquire as to the reasons for the additional expense. It may be that satisfactory explanations can be made by the engineer in charge of the work, but if the inquiry comes several months after the completion of the job, as is often the case, and this engineer is not available, there are no written records to show the causes for such discrepancies.

In all cases the final and partial estimates of contract work should include complete statements by the engineer in charge of the work as to reasons for extra work and for quantities above the preliminary estimate. Furthermore, whenever the extra work on any contract becomes more than a minor item in the total expense, supplementary contracts should be made for such work.

CITY PLAN.

In 1911, a survey was made and a report was submitted to the Rochester Civic Improvement Committee by Arnold W. Brunner, Frederick Law Olmstead, and Bion J. Arnold, outlining the need for a city plan and suggesting certain lines for the development of one. This report should be used as a basis for developing a plan which will be followed in all future local improvements, extensions, and park developments.

Congested Traffic Conditions to Be Overcome.

There is much trouble from congested traffic conditions in the business section of the city, and this is largely due to the fact that there are few main thoroughfares and parallel streets. In going from one part of the city to another, all traffic must pass through the business districts. Attention is called to the necessity for main thoroughfares and their connection with local streets in the above mentioned report on a city plan. It is believed that the development of a city



The unsightly appearance of unpaved track area on Plymouth Avenue.

plan as suggested above would do much to solve the traffic problem, and this problem is one that is growing more difficult.

Supervision of Subdivision Plans Recommended.

The charter makes no provision for supervision of subdivision work except to require that the plans for such work must be filed with the city engineer. The effect of the lack of proper supervision is seen in all sections of the city. The small number of parallel streets, the lack of main thoroughfares, the great number of short streets, the numerous curves and jogs in streets—all of these features result from the lack of a city plan and from failure to exercise supervision over subdivision work. The Park Avenue car line is an excellent example. In the first seventeen blocks after the line leaves Main Street there are no less than thirteen curves and bends caused by changes in the direction of the street.

Recent subdivisions show no improvement over the older ones and it is recommended that the engineering bureau, or department as it is now known, be authorized to approve all subdivision plans. It is further recommended that all plans be made to conform to the city plan before being approved.

Initiation of Local Improvements.

Section 111 of the city charter gives the common council the power to require the construction of all public improvements. The property owners on any street may present a petition requesting a local improvement, such as a street pavement or a sewer, but generally the original petition from the property owners does not reach the common council. The alderman in whose district the property lies presents a resolution relative to the improvement, and this resolution is invariably passed. A further provision of the charter requires that final ordinances for local improvements must be passed by a two-thirds vote of the council unless a majority of the property owners on the street to be improved present a petition requesting the improvements.

Much of the irregularity of the city's growth may be traced to this method of initiating improvements. With the adoption of the city plan, a work program for improvements covering a period of at least five years should be prepared, and the power to initiate improvements in accordance with this plan should be vested in the commissioner of public works.

Unpaved Track Area.

Several of the streets of Rochester have car tracks located on

each side of the roadway instead of in the center. Such location is not greatly objectionable if the track area is suitably cared for and maintained, but this is not the case. On the Lake Avenue and Plymouth Avenue lines in particular the lack of any kind of paving in the track area results in a condition which is both unsanitary and unsightly.

Wherever car tracks are placed on the sides of roadways the adopted standards of construction should be required, and the track area should be paved or sodded. The space between the tracks may be filled with broken stone and the stone covered with a thin layer of cement grout, or the whole area may be sodded and made into a sort of parkway.

Selection of Pavement Type.

The charter provides that the selection of the type of pavement to be laid on an improved street be left entirely in the hands of the property owners on the street. If these property owners refuse to make a selection, the board of contract and supply is authorized to do so, but in the majority of cases the citizens themselves make the selection. The engineering department is called on only to furnish costs, to state in general the various factors of desirability for the several type of pavement under consideration, and to prepare the contract and specifications according to the type selected.

The selection of the proper type of pavement for any street is dependent upon so many factors that it requires the knowledge and experience of one well trained in highway construction. The property owners along the street are not qualified in any respect to make a proper selection of pavement. The experience of every city in the country in which this manner of selection has been allowed bears out the statement that selection by the citizens results in the majority of cases in the laying of the wrong type of pavement.

Selections by the citizens also results in a lack of uniformity in street construction, and this is particularly noticeable in Rochester. On almost all of the long streets of the city, at least two or three different types of pavement have been laid. There may be two or three blocks of brick pavement, then a few blocks of dirt road or macadam pavement, and following this there may be an asphalt or bitulithic pavement. For example, on Main Street there is Medina block stone pavement, asphalt pavement and brick pavement; on University Avenue there is macadam, asphalt, and brick pavement; and on Clifford Street there is asphalt and brick pavement and unpaved road. One of the most striking examples of this irregularity



The effects of poor foundation, light rail section, and improper setting of rails.

is found on Goodman Street, where there is a section of macadam pavement, followed by a section of brick, then more macadam, another section of brick, some asphalt, a section unpaved, another section of brick, some asphalt, a section unpaved, another section of macadam, a small section of brick, and then another section unpaved. St. Paul Street, which leads to East Boulevard and consequently should be well paved, is another typical case. Here there is found a section of Medina block, then asphalt, next more Medina stone, another section of asphalt, and finally a section of macadam.

Wherever a change in the type of road surface occurs a plane of weakness is developed and the cost of maintenance is consequently increased. This is in addition to the unsightly appearance caused by the use of several different types of pavement within the same street.

It is suggested that whenever a street is to be improved with a permanent pavement the highway department or bureau be required to select the type of pavement and to design the road. Under the suggested reorganization of the department of public works, this selection and design should be made under the supervision of the bureau of highways and bridges, but under the present organization the work should be done by the engineering department.

Paving in the Street Railway Area.

An inspection of the street railway area on almost any of the car lines in the city shows the lack of standard construction. The construction and maintenance of the pavement in this area—"that included between two lines, each two feet outside the outer rail"—is under the control of the street railway company, and the city does not even specify the type of rail to be used. It is apparent that almost every type of construction has been attempted and the results have been poor for the most part.

The use of a T rail on improved streets is generally acknowledged to be unsatisfactory. This type of rail has been recently used on Genesee Street which is paved with wood block, laid in 1914. At the time of inspection this pavement showed the result of the use of this type of rail. The blocks were laid perpendicular to the rail without a header row. This alone is almost sufficient explanation for the unsatisfactory condition. This method of laying the wood block in the car track area presents the weakest dimension of the block to the pounding action of the wheels, and in the case of wood block invariably results in a breaking of the block. In all cases at least one header row of block should be laid parallel to the rail.

The use of a T rail necessitates the use of a cut block, which results in a weakening of the block and in the wedging of dirt between the block and the rail. This pressure results in the block being thrust out and up and causes continual trouble and constant relaying of the pavement. Particularly should the T rail not be used with this type of paving. The "Trilby" type of girder rail has proved to be the most satisfactory rail on improved streets.

The effect of laying blocks perpendicular to the rail without a header row parallel to the rail is evident in many places on Main Street. The stone block is sufficiently strong to resist breaking with the result that the block is lifted bodily out of place and projects up into the street to be eventually torn out by a passing car, unless relaid.

An additional cause of trouble was evident on Main Street where short sections of rails had been laid, some of the sections being not more than three feet in length. In no cases were the joints welded. It is generally recognized that as few joints as possible should be provided, and that all joints should be welded.

A further cause of trouble has been the use of a 5" or 7" rail in almost all parts of the city. It is impossible to lay this depth of rail with sufficient firmness; and a minimum section of 9" should be required. A further requirement should be the imbedding of the rail in concrete.

It is recommended that a standard form of construction be adopted by the city engineer, and that this construction be required of all street railway companies operating within the city. The standard should be made somewhat along the following lines:

- 1—A "Trilby" type of grooved rail with a minimum depth of 9" should be adopted. This rail should be set in concrete in all cases and the space on each side of the web of the rail should be filled with concrete and sand.
- 2—If the roadway is to be paved with asphalt, the present type of construction should be abandoned. It is always preferable to bring the asphalt flush with the outer rail, but if it is desired to pave the two-foot strip outside of the rail with brick or stone block, header rows should be placed parallel with and next to the rail, and also next to the asphalt. The short dimension of the brick next to the rail adds about 50 per cent. to the number of joints coming in contact with the rail, besides presenting the short and weakest dimension of the brick to the pounding action of the cars. An established principle is that a smooth even line of contact between the two types of paving material on street surface is always preferable to an uneven line of contact. The plac-



What happens when short lengths of rails are used—Main Street.

ing of a header row of brick next to the asphalt provides a smooth line of contact and does much to reduce the cracking of the asphalt along this line.

In drawing up specifications for the type of rail, reference should be made to the recently adopted specifications of the American Electric Railway Association.

STREET LIGHTING.

Street lighting is furnished under a five-year contract by the Rochester Railway and Light Company. Nominally, the supervision of street lighting is in charge of the commissioner of public works, but actually the city engineer is in charge of this work. Under the proposed reorganization of the department of public works this contract would be in charge of the commissioner.

The lighting contract provides that the contracting company shall maintain at its own expense a system of patrol for inspecting and repairing lamps. In addition to this there have been periodical inspections by the engineering department, and the police cooperate in a satisfactory manner by reporting all outages.

The streets of the city of Rochester are well lighted. The spacing of lights appears to be satisfactory, and it is evident that uniform types of poles and standards are insisted upon.

LOCAL IMPROVEMENT ASSESSMENTS.

According to section 112 of the charter, the common council has the right to assess against property within a local district the cost of construction, reconstruction, repair, improvement, alteration, or extension of any public improvement, providing the property within the local district is deemed to be especially benefited. This provision is so comprehensive that it permits practically every public works operation to be classed as a local improvement. The designation of whether a particular piece of work shall be locally assessed is made optional with the council.

Procedure for distributing the cost of improvements designated as local improvements is not provided for in the charter or by general ordinance, but is usually specified in the special ordinance authorizing the work. As a matter of practice, not all of the public works operations have been considered as local improvements. Those designated as local improvements are:

- a—Paving, repaving, grading and regrading, and surfacing of streets.

- b—Opening, alteration, widening, extension, or discontinuance of streets.
- c—Care and embellishment of parking places and parkways.
- d—Construction, alteration, and repair of sewers, drains and laterals connected therewith.
- e—Construction of lateral mains and house sewers for the provision of water service.

Although well within the rights as provided in the charter, the designation of these operations as improvements presumably of special and local benefit to the surrounding property, comprehends many more public works operations than are usually considered as purely local improvements.

There are few public works operations which can be defined as purely local improvements beneficial to particular property within a local district, to the general exclusion of other property throughout the city. In fact, the theory of local improvement assessments, although based upon the principle of distributing the cost of improvements according to benefits, seldom effects as equitable a distribution of the cost as a general tax. By the inclusion of careful scientific charter provisions governing the designation of local improvements or the right to designate specific improvements as local improvements, it is possible to establish theoretically equitable procedure, but difficulties in administration usually break down in practice what may seem to be theoretically perfect in the law.

In nearly every city, pavements have been at some time considered as local improvements. In Rochester the original paving, repaving, reconstruction, and resurfacing are considered as local improvements. Repairs are paid for from the general funds of the city.

This procedure, if premised on the theory of benefits, must of necessity imply that the property abutting upon a street receives a substantial and peculiar benefit by construction, reconstruction, and resurfacing of the street to the exclusion of other property in the city. This, however, is not the case, and the presumed equality in the apportionment of cost is becoming less apparent every year due to the increased use of privately owned motor vehicles. In the original paving of a street, it is true that certain peculiar benefits accrue to the abutting property, but the maintenance of the originally constructed pavement in proper condition through resurfacing, reconstruction or repair is merely the replacing of worn out areas. What direct benefit comes to adjoining property through the original construction of permanent pavement is accrued on account of the capital



The effects of poor construction in the track area.

expenditure involved in the construction of the first permanent pavement. By providing transportation facilities for all kinds of traffic, the first pavement adds distinctly to the value of the property. There is no capital expenditure involved in the replacing of worn out pavement by reconstruction, resurfacing or repair. These charges are solely a replacement and maintenance expense necessitated on account of deterioration caused by traffic from all parts of the city and vicinity, and as such, is properly chargeable only to the community's general funds.

Removal of Snow and Ice.

It is unusual to find a city guaranteeing to clean or remove snow and ice from the sidewalks in front of private property, but the results of such a practice in Rochester would well warrant its consideration by other municipalities. In a locality where the average snowfall during the winter months amounts to about 40 inches, the average cost of one dollar per year for a forty-foot lot is extremely reasonable. At the time that this survey was in progress it was too late to judge of the effectiveness of the contracting forces engaged in this service, but reports indicate that the service is satisfactory, and if so, the city is to be congratulated upon a procedure for removing snow and ice from the sidewalks not only economically but effectively.

Street Cleaning.

According to the present practice, fifty per cent of the cost of street cleaning is assessed against the property within a local district. This is indeed exceptional, as street cleaning has almost invariably been accepted by the various cities as a general operation charge, and as such has been considered chargeable to the city at large. Street cleaning is not only of local benefit, but it also adds to the health and welfare of a community. Clean streets invariably mean a lighter mortality rate. The street cleaning problem should be handled as a general community problem, and not, as at the present time, by the designation of special areas through special ordinances, providing for the cleaning of certain streets. The pending reorganization of the street cleaning forces, involving a change from the system of contract cleaning to that of municipally operated gangs, provides an excellent opportunity for changing the financial scheme. The present procedure tends to increase sectional consideration of general health and sanitary measures.

Assessments for Pavements.

The method of apportioning the pavement cost in Rochester is one which has been adopted through custom. The improvement ordinance

generally specifies that the cost of the improvement shall be assessed against the abutting property on a straight frontage basis, this cost to include that of paving the street intersections.

It is true that an improved street benefits the abutting property, but paving a street opens an artery of traffic which results in benefit to the entire section in which the improved street lies, in proportion to the nearness of each parcel of property to the street improved. A street drains a traffic district in the same way that a main sewer drains its area. The cost of the main sewer is spread over the entire area in proportion to the benefit derived and the same reasoning might be applied to pavements.

Although the same apportioning principle which determines the manner in which the cost of a main sewer is assessed would be equally sound in regulating pavement assessments, there is one essential difference in the practical application. In cities where the same principle governs the distribution of the cost of both improvements, there has been developed a special procedure for pavement assessments. Where it has been found desirable or necessary to assess the cost of extensive boulevard or parkway construction within a local district, and where it would be most inequitable to assess the cost of such improvement upon abutting property alone, many cities have established arbitrary assessment districts extending back in all directions from the improvement for more than a mile. It is very difficult, however, to determine just what traffic area a boulevard, parkway, or an ordinary street drain. In a main sewer district this is determined automatically by the topography of the locality.

The difficulty in determining the drain traffic area has confined the application of the area system of apportionment of pavement costs (where an ordinary street was being paved) to a restricted area, usually extending to lines equidistant from either side of the street under improvement or midway between that street and the next parallel streets. In order to equate the assessment within a pavement district so determined, zones are established, usually three in number, bearing a decreasing percentage of the cost according to their increasing distance from the improvement. This principle of assessment, which has been so well developed in some of the western states, particularly Oregon and Washington, is far superior to the street frontage assessment plan now being used in Rochester.

One of the conditions which often arises as a result of the frontage assessment has already arisen several times in Rochester. This is known as property stripping. In order to escape a full assessment for pavement construction, property owners have at times sold or transferred

title to a narrow strip of land abutting on the street about to be improved. This narrow strip seldom has a value which even approaches the amount of the normal assessment which would have been levied against the property. If the principle of assessing on frontage is specifically required by the ordinance, either the other property owners on the street must bear an undue proportion of the cost or the city must make good the deficit, for it is obviously impossible to collect an assessment on property which has no value. Instances found in the history of pavement assessments in Rochester show that this strip is usually from two to seven feet deep, and in order to obtain some return from the property, assessments have been reduced, usually about one-half.

Another situation arising where the frontage plan of assessment is used, is found where the directions of the lot lines are not the same. The accompanying diagram indicates this situation.

It is the custom in Rochester for the property abutting on the first street improved in a district to pay the entire cost of all intersections for the length of the improvement. This means that property on the long or main street pays all of the cost of the street intersections while property on the cross streets, although it benefits equally, pays nothing. Corner property which is stripped, of course, receives a double benefit under this system.

In some cities the stripping of property is prevented by law which permits the city to take by excess condemnation all narrow strips of property which cannot be used for building purposes. The payment for intersections is usually made from the general funds of the city, since it is argued that the paving of the intersections is of benefit to the city at large as they open up arteries of traffic. Payment out of the general fund, of course, makes the local assessment lighter, but its justice is doubtful. The use of the zonal method of proportioning costs makes this unnecessary and prevents, in a very effective manner, such trickery as the stripping of property.

Parking Places and Parkways Plan Commended.

To designate the care and embellishment of parking places and parkways as a local improvement is another unusual practice found in Rochester. A local improvement ordinance may be passed at the request of the property owners on any street for the care and embellishment of the parking places on the street. Under such an ordinance the parking places or parkway is improved and cared for by the city, either under contract or by city labor, and the cost is assessed against the abutting property on a frontage basis.

This procedure insures the proper care of parkways, and results in uniformly well kept streets. The expense to the property owners is slight (about six cents per foot); they are relieved of all care of the parking places and assured of a well maintained street. The plan appears to be successful in its operation.

Payment for House Laterals.

Water mains as a rule run along the north and east sides of the street. This means that longer trenches are required for connections to houses on the south and west sides of the street than on the sides on which the main is laid. The present method of assessing for house connections is to charge the property owners with the entire cost of the work from the main to the curb. This method of assessment is not equitable in original improvements and brings an unnecessary expense on the property owners paying for the longer trenches. The cost of house connections should be estimated for a length of trench equal to the distance from the center of the street to the curb.

BUREAU OF PUBLIC BUILDINGS.

The bureau of public buildings is in the engineering department by reason of a charter provision. This same provision requires that the city engineer act as superintendent of public buildings, with the exception of those used exclusively by the departments of public safety, parks, or public instruction, or by the Mount Hope Cemetery Commission.

Inasmuch as the functions of the bureau of public buildings are the care, operation, and maintenance of these buildings, the placing of this bureau in the engineering department is not easily understood. These functions are purely operative, and are in no way connected with construction or engineering service. Consequently, it is proposed to remove this bureau from the engineering department and place it in the department of public works, which is an operative department.

In connection with this change, it will be necessary to revise the charter provision cited above, and provide for the appointment of a superintendent of public buildings who shall not be the city engineer.

Central Heating Plants.

The municipal building and the city hall both operate independent heat and power plants. The distance between these two buildings is less than fifty yards. The police headquarters, the municipal garage, and a fire station are all situated on one street within one hun-

dred yards of each other. Each has its own heating plant. There are also five heating plants operated at Exposition Park. It is recommended that a special study be made with a view to ascertaining whether it would be more efficient to consolidate the heating of the municipal buildings in the groups above indicated.

More Comfort Stations.

Attention is called to the fact that the city needs more comfort stations. Such investments uniformly meet with favor by taxpayers.

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**PRESENT ORGANIZATION OF THE
DEPARTMENT OF ENGINEERING
ROCHESTER N Y**

**ADMINISTRATION
CITY ENGINEER**

INSPECTION
Local improvement
Construction
Guarantees
Ass't Engineer

FLOOD PROTECTION
Ass't Engineer

TESTING LABORATORY
TRANSITMAN

GENERAL OFFICE
Correspondence
Reports
STENOGRAPHER

CLERICAL DIVISION
Claims recorded
Contracts
Estimates
Proposals
Payrolls
Regulations
Information
CHIEF CLERK

RECORD ROOM
Records, Imp. plans
Assess maps, prints
House numbers
Information

PUBLIC BUILDING
JANITOR

**WATER WORKS CONDUITS
IMPROVEMENTS**
Water shed survey
Bridge construction
Brighton Sewage Disposal
Water Works Improvements
Principal Ass't Engr.

**ORDINANCES
ASSESSORS STATEMENTS**
Ass't Engineer

**Surveys for imp'ts
Topograph' Surveys
Assessors statements**
Ass't Engineer

**Surveys of new
territory, Re-Surveys,
Monuments
Condemnances
Ordinances
City map.**

**WATER WORKS
CONSTRUCTION**
Feed mains
City conduits
Maps
Ass't Engineer

SEWAGE DISPOSAL
Ass't Engineer

**Ordinances
Specifications
Sheet cleaning
Sprinkling
Snow removal
Calcium chloride
TRANSITMAN**

FF

PROPOSED ORGANIZATION
OF A
BUREAU OF ENGINEERING
IN THE
DEPARTMENT OF PUBLIC WORKS
ROCHESTER, N.Y.

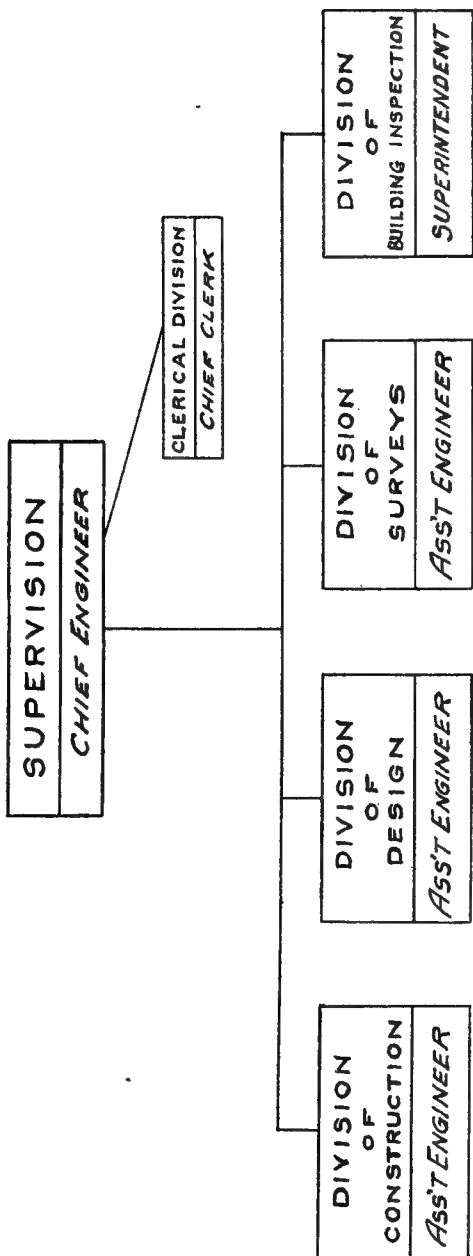
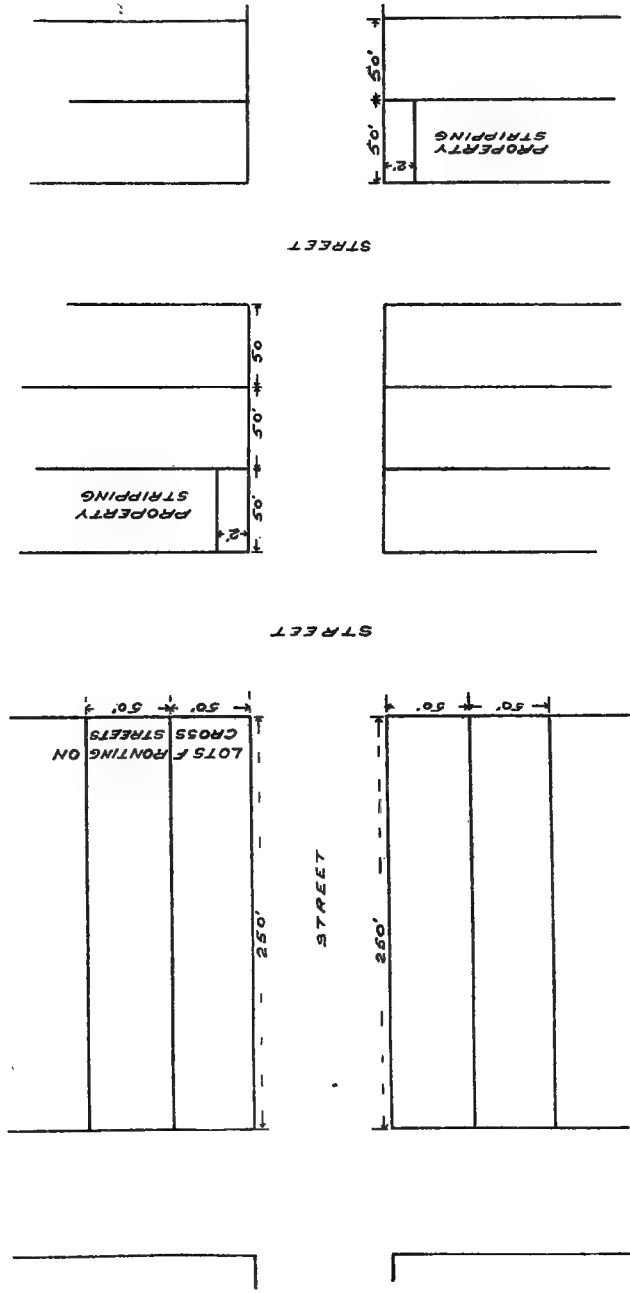


DIAGRAM SHOWING PROPERTY STRIPPING
AND EFFECT OF CHANGES IN DIRECTION OF LOT LINES ON FRONTAGE ASSESSMENTS



PARKS AND PLAYGROUNDS.

PARKS.

General Statement.

The area of the parks of Rochester is adequate for the city's needs at present. The 1,603 acres of park land, approximately 12½ per cent. of the city's area, and providing about one acre of park land for each 156 residents, is above the average park area for American cities. A distribution of the park area to provide the greatest benefit has not been accomplished, however. There are 1,489 acres which are concentrated in the five large parks and about one-third of this area is in Durand-Eastman Park, a beautiful tract, a valuable asset of the city, presenting great possibilities of development, but at present so far removed from the city that its advantages are enjoyed by only a comparative few. The lack of parkways also renders the extensive areas less accessible.

The problem which Rochester now faces with regard to its parks is the provision of more neighborhood recreation spots—both for play and quiet rest—the planning of connections between parks, and the acquisition of more outlying reservations in anticipation of the city's growth.

Plans and Program for Development.

The Plan of 1889.

The original plan for the parks of Rochester was prepared by Frederick Law Olmsted about 1889. It included provision for the large reservations and for a parkway and boulevard system encircling the city. The strong personnel of the park board secured the development of a part of this plan. The large reservations were secured and developed and Seneca Parkway, a link in the proposed encircling parkway, was partially built. But the very cause contributing to the development of the parks tended to defeat the acquisition of parkways. The large board was divided into committees, one administering each park. The striving for the improvement of each park forced the parkways into the background and effectually stifled their development. The result was the development of five excellent, large parks or reservations and at the same time the prevention of the construction of parkways and the acquisition of an adequate area for neighborhood parks.

The Plan of 1911.

The Rochester Civic Improvement Committee realized the shortcomings of the city as regards both parks and the street system. They engaged Messrs. Olmsted, Brunner, and Arnold to make a study of the city. The report was submitted in 1911. Criticism was made of the lack of parkways and small parks and a general plan was drafted to overcome these difficulties. This plan merits close study by the municipal government and steps should be taken to carry it out. Progress, of course, should be made gradually and in accordance with the growth of the city. If this general plan were developed, it would mean one of the greatest park systems in the world for Rochester.

Present Program and Plan.

No steps have been taken by the park department either to adopt this plan or to prepare another. The prevailing sentiment seems to be that the parks are adequate and that the problem is now one of maintenance instead of development. To a certain extent this is true. But Rochester should not be content with the present excellent condition of its parks. The city must grow—even at its present rate of increase it will reach over 400,000 in 1950. As it grows, the need for larger reservations with connecting parkways to furnish easy access to them will increase and the resultant increase of congested districts of the city will make a much larger area of neighborhood parks and playgrounds necessary. The parkway, if properly designed, will serve the double purpose of a traffic artery and a neighborhood park. It warrants a close study of its adaptability to Rochester conditions.

Development Plans.

In order that future acquisitions may be systematically planned and adjusted to the present properties to the best advantage, it should be provided in the charter that a program for park development, covering a long period and based on the city's growth, be prepared by the park department. No one is specifically charged with this duty at present, and the provisions with respect to the acquisition of property are faulty. It is not necessary to secure the park commissioner's approval of the acquisition of property for park purposes, and it is entirely possible for the council to authorize the purchase of park property by ordinances initiated by its own members, the mayor, or others outside of the park department. If a development plan is to be prepared and carried out by the park commissioner, he should have authority to pass upon each acquisition, and it should be the policy to allow

only the park commissioner to initiate proceedings for additions to the park area.

Street Trees.

The department of parks is charged with the care of the street trees. It also supervises the planting of trees on new streets, if ordered to do so by the council. The department has no power, however, to initiate proceedings for planting certain streets or sections, and this restriction operates against the preparation of a planting program. On account of their expert knowledge of trees, the officers of this department should be charged with preparing such a program and should decide upon the varieties to be used in all cases. No ordinances for planting trees should be passed without the approval of the park commissioner, who should have the power to initiate proceedings in conformity with the approved program.

The trees used for street planting are purchased in the open market. The nurseries of the department grow the rarer trees and shrubs for the botanical collections and common native stock which it is difficult to purchase from commercial nurseries. No attempt has been made to grow trees for street planting. Rochester's location in a nursery district makes a close study of the relative economy of purchasing in the open market and of growing its own street stock more necessary than in most cities. It is generally the case that savings of 20 to 25 per cent. are possible if a city grows its own trees, but much of this saving is due to the elimination of freight charges, which are practically negligible in Rochester. However, it appears that the park department could grow its own stock at least as cheaply as commercial nurseries. Even if there were no saving in cost, there would be less likelihood of loss in transplanting. The absence of cost data as to nursery work in the parks renders the solution of this problem more difficult.

Botanical Collections.

The extensive botanical collections of the department are very commendable. Both from an educational viewpoint and as a source of pleasure to the nature-lover, their maintenance is justified. But too little use has been made of the educational data which have been collected. The lists of varieties in the collections and the index to the herbarium should be issued in pamphlet form for general distribution to the citizens. These booklets would do much to increase and strengthen the already strong public sentiment for the parks. The

trees in all of the parks should be more plainly labeled. Most of the signs now in use are almost illegible.

Accounts and Records.

Cost Data Lacking.

The accounts of the department are classified by objects of expenditure. A cost accounting system has never been adopted. It is possible to obtain the annual cost of tools, fuel, labor, etc., for each park, but the cost of maintaining lawns, planting, conducting nurseries, etc., is not available. It is impossible to make a detailed study of relative costs when the accounts are kept in this way. As a basis for administrative judgment of the superintendent and commissioner, functional cost data are essential. In the preparation of estimates for appropriations such data are invaluable. A revised method of keeping the park accounts should be installed in accordance with a general accounting plan for the entire city government.

Annual Report.

The last report of the department was issued in 1911. Reports should be issued each year. They should follow a standard form, providing a general review for the lay reader, a technical description of work performed and a financial report with statistical and cost tables. Such reports would be of much informative value to the taxpayers and other citizens and awaken a broader interest in parks. Such reports also serve as a means of comparison of methods with those of other cities.

PLAYGROUNDS.

Inadequate Area and Equipment.

The playground system should be extended gradually to a much larger area. The distances of certain sections of the city from playgrounds are so great that the latter are not available for the children of these sections. Other grounds, notably Front Street and South Avenue, are entirely inadequate in size for the children who use them. The apparatus is not of the best; the slides are narrow and do not protect their users from falls; and some of the "giant strides" are made of iron and liable to cause injuries. The field houses are small and, with two exceptions, furnish only enough space for story-telling, quiet games, a small library, and, in some, baths for small children. No space is provided for indoor gymnastic work except in the new Washington Playground field house and at Exposition Park.

The development of the Rochester playgrounds proceeded in a haphazard manner until 1915. They were under three or four different departments, and uniform methods on all grounds had not been introduced. Under the recent amendment to the charter, the playgrounds were placed under the jurisdiction of the park department. This centralization furnishes the opportunity for the preparation of a comprehensive plan of development and improvement. This plan should be prepared by the park commissioner in connection with the general park development plan. Wherever possible, new playgrounds should be combined with neighborhood parks. This combination furnishes an area of the greatest benefit to the surrounding population, providing play of various kinds for the younger children and a place for mothers and adults to enjoy quiet rest.

Training and Appointment of Directors.

At present playground directors are selected without a written examination. In the past personal friendship and political preference have been prominent factors in the selection of directors, but the present superintendent is making an effort to increase the efficiency and fitness of his forces. It is most essential that the play leaders be selected on account of their qualifications and ability to deal with children. They should by all means be placed in the competitive class of the civil service.

The training of the workers should be given careful attention after their appointment. The number of meetings for instruction should be increased, and their efficiency enhanced by the adoption of a definite course of training.

MOUNT HOPE CEMETERY COMMISSION.

Mount Hope Cemetery Commission is a self-supporting department of the city. It is operated similarly to a private cemetery and no appropriations are made toward its maintenance by the city.

Need for Funds.

The general condition of the cemetery is good, with the exception of the roadways. Some of these are in very poor condition, but it is impossible to repair them because of lack of funds. No assessment may be made against the lot owners, and the city has refused to grant requests for funds. Some of the roadways are so dangerous that a city appropriation is warranted, and it is suggested that a program of improvement be adopted.

Connecting Roadway Suggested.

If the roadways are improved they should be opened up to automobile traffic. They might in fact be made to furnish a connection between Genesee Valley and Highland Parks, but they should be restricted to light traffic.

CIVIL SERVICE COMMISSION.

The authorized offices and employments of the city of Rochester aggregate close to 7,000 employees. These are roughly distributed as follows:

Unclassified	2,491	
Classified		
Exempt	48	
Competitive	1,278	
Non-competitive	488	
Labor	2,783	
		4,597
Total		7,088*

The functions of the local civil service commission as prescribed by the state law and regulations relate to the following:

- 1—Classification of positions.
- 2—Arrangement, preparation and conduct of examinations as a basis for original entrance to or promotion within the service.
- 3—Certification of eligibles from original entrance or promotional lists.
- 4—Registration and selection of laborers.
- 5—Audit and certification of payrolls.
- 6—Regulation of reinstatement, transfer, etc.

As pointed out under subsequent captions, the system of civil service control and regulation of the city of Rochester is fundamentally defective. The control which it has effected within certain fields, such as promotions, is more or less perfunctory. The whole promotional system is defective. Efficiency records are not maintained subject to any supervision by the commission itself. There is urgent need for revision of the rules and regulations of the commission so as to give it certain control over increases of salary and a comprehensive scheme of promotions making due recognition of individual performance and seniority of service.

The civil service commission is not in a position to correct some of the unfortunate conditions pointed out without additional staff. Other striking defects can be corrected as the commission is now conditioned.

THE COMMISSION.

Activity of the Commission as a Board.

The salary of the commissioners is nominal (\$500 per annum), and

* The above does not include the teaching force of the department of public instruction.

as a result but a small portion of the time of each is devoted to the work. It is to be noted that the secretary, although receiving a larger salary, is also devoting but part time to his official duties.

An examination of the record of the meetings and deliberations of the board indicates that the control is more or less superficial. Judging from the record of the meetings and the subjects covered, the deliberations have taken the form of cursory review of certain communications which the secretary thought should come before the commission. A careful analysis of the subjects covered shows that for the most part the deliberations relate to requests from the departments for transfer, temporary appointment, or reinstatement, or have to do with the fixing of the time and conditions of an examination to be held.

Suggested Reorganization of the Commission.

The suggestions with respect to the commission itself are that the commission as a board be charged only with the performance of legislative and general administrative functions under an arrangement whereby the executive detail would repose in a staff organization.

This contemplates two divisions of the organization as follows:

a—Civil service commission (i. e., the board)

b—Department of administration.

a—The function of the commission itself would be legislative, judicial and inspectional, involved in the performance of the following activities.

- 1—Formulation and amendment of rules and regulations governing classification, appointment, promotion, transfer, etc.
- 2—The hearing of protests and complaints against rulings, etc.
- 3—The making of inspections and the report upon conditions which affect the welfare of officers and employees.
- 4—The consideration and review of the annual and other reports of the head of the department of administration.

b—The department of administration should be charged with the enforcement of all rules and regulations prescribed by the commission. It would perform the various classes of work involved in the execution of the program formulated by the commission, including the following:

- 1—Business routine, such as handling and filing correspondence, advertising examinations, receiving examinations, certifying eligibles, certifications of payrolls, etc.
- 2—Arrangement, preparation, holding and rating of examinations.
- 3—Supervision of efficiency records and ratings.

The head of the department of administration should be a member of the commission, preferably its chairman. He should devote his entire time to the performance of his official duties and receive compensation appropriate to such full time performance.

The two associate commissioners should have no responsibility for immediate direction of the staff or performance of staff functions and should be required to render but part time service. Their salaries should be graded accordingly.

The terms of office of each commissioner should, it is thought, be six years, with overlapping terms under an arrangement providing for the appointment of a commissioner every two years.

THE STAFF.

The clerical routine of the commission devolves upon two employees, who represent the entire staff, a secretary at \$1,200 and a chief clerk at \$1,080. It is to be noted that the secretary is devoting but part time to his official duties. Thus the organization has but one full-time employee.

It is to be observed that, owing to the part time performance by members of the commission and by the secretary, the responsibility for a large part of civil service administration is shifted to the chief clerk. This clerk has been in the organization for a number of years and is given a very large amount of latitude and discretion.

RULES AND REGULATIONS.

The governing rules and regulations are stated in a rather broad and elastic way. This is desirable. There is, however, one respect in which there is immediate need for revision of the rules and the practices thereunder.

Section 16 of the state civil service law contemplates that the civil service of each city be classified into salary grades and that advancement from one grade to another shall be made only after certification by the civil service commission, which certification shall as far as possible be based upon examination. This section is designed primarily to enable the civil service commission to control promotions by preventing the finance controlling authorities from making radical increases in salaries of existing employees (which increases necessarily presuppose change of duties) without at least a certification from such independent agency that the person designated is fit for the assumption of such increased responsibility.

This important field of civil service control, however, has been neglected by the local civil service commission except with respect to

certain divisions of the clerical service. Three grades have been established in the clerical service for the general clerical group as follows:

Title	Range of Compensation
Chief clerk	\$85 a month and up (\$1,020 per annum)
General clerk	\$60 to \$85 a month (\$720 to \$1,020 per annum)
Junior clerk	(no minimum to \$60) (to \$720 per annum)

No rates are specified for any of these grades.

Two grades are provided for stenographers—the junior stenographer whose compensation may exceed \$50 a month, and the stenographer whose salary is above \$50 a month.

With respect to all other positions the salaries of employees in the service may be increased as rapidly or radically as the appropriating body desires.

The indifference and failure of the commission in the foregoing respect explains in large part the feeble and negative influence which it has had in the important field of promotion and advancement. The exercise of the power which it obviously has in this relation is fundamental to any progressive or businesslike system of control.

Regulations of the Personnel of Fire and Police.

The special regulations governing the so-called uniformed forces (fire and police) are treated critically under the chapters of this report discussing the fire and police services.

Suggested Changes.

Under "standards of compensation" it is recommended that salary grades and rates of Rochester be readjusted and standardized on the basis of duties and work required. The establishment of such standards, which will provide uniform compensation for the same or similar kinds of work and provide a gradation of salary on the basis of work and responsibility, will, of course, correct the present unfortunate conditions. It is thought, however, that the improvement of the present conditions should not be postponed until the study necessary to standardize salaries has been completed. It is, therefore, recommended—

- 1—That the rules of the civil service commission be amended so as to classify the service into appropriate functional divisions, such as clerical service, inspectional service, mechanical service, etc.
- 2—That for each service an appropriate number of salary grades, based upon logical gradation of work and responsibility, be adopted.

- 3—That advancement or promotion from one grade to the next higher grade shall be effective and legal only upon certification by the commission, which certification shall be based as far as possible upon competitive examination.

CLASSIFICATION OF POSITIONS.

In order to think intelligently about problems of appointment and promotion, there must be a logical correlation or grouping of positions, on the basis of work requirements and entrance qualifications. Such classification is an essential step in the development of detailed specifications, which will indicate, first, the logical compensation to be attached to authorized positions, and, second, the requisites of training and experience for admission to such positions.

Prevalence of Unnecessary and Misleading Titles.

A scrutiny of the list of existing titles in the civil service indicates that Rochester has a fairly logical distribution of positions. It is apparent, however, that there are many unnecessary specialized titles some of which are misleading. Apparent examples of this are the following:

- Delinquent tax bookkeeper.
- Local improvement clerk.
- Local improvement tax clerk.
- Record bookkeeper.
- Special inspector.
- Statement clerks.
- Helper to foreman.
- Overseer keeper.

If the principle of open competitive examination is applied, each unnecessary specialized title entails an additional examination. This means unnecessary cost and delay. The regrouping of the positions with a view to eliminating unnecessary or misleading titles would greatly simplify the problems of preparing entrance and promotional examinations. In addition, it would remove the opportunity, now present, for favoritism and the tendency to adopt fictitious salary rates for the positions with such specialized titles, for the use of a special title is intended as a rule to indicate peculiar or technical requirements not exacted for other positions of the same group.

In the latter connection it should be noted that the existing classification is unsound and fragmentary in that it does not provide or contemplate detailed specifications for each employment. As pointed

out in another part of this report, such standard specifications would furnish the basis for fixing and controlling salary rates.

Registration and Grouping of the Labor Class.

The state regulations governing the "labor class" (which class by ruling of the local commission includes practically all skilled and unskilled positions) require registration and certification of applicants in the order in which their applications are submitted. It is the practice of the local commission to prepare eligibility lists for each department, the applications being received and recorded by department. It is true that each applicant has the privilege of registering for any or all departments. Ordinarily he has in mind some specific department and thus appears in but one eligibility list. It would be more in keeping with the principle of civil service to maintain as far as possible general lists for this class, thus applying the principle which is observed with respect to the clerical and other positions of the competitive service. Each applicant would be certified in the order in which his name appears for any vacancy irrespective of its location. He would be permitted, within certain limits, to decline appointment and still retain his place on the list.

There is danger of abuse in the present practice which provides for special or narrow eligibility lists, whether such lists are based upon examination or merely registration.

It is further observed that there are a number of technical and skilled positions in the "labor" class for which competitive examinations should be held.

Exemption of Positions from Competitive Examinations.

While the number of "exempt" positions in the Rochester civil service is very small, it is clear that there are several positions so classified which should be subjected to competitive requirements. For example, to such positions as:

Cashier of the treasurer's office,

Clerks (two) of the treasurer's office,

Cashier of the bureau of water works,

and others of similar nature, the competitive idea, presupposing permanence of tenure, should be applied.

Suggested Changes With Respect to Classification.

In order to remedy the foregoing defects, it is suggested that the civil service commission revise its classification of positions along the following lines:

- 1—Transfer from the exempt and labor classes those positions for which competition is practicable.
- 2—Eliminate specialized titles so that entrance to and promotion within the service will be based as far as possible upon general examinations.
- 3—As far as possible provide general registration lists, i. e., lists city-wide for the labor class.

Under "compensation" is pointed out the need for the comprehensive classification which will set up detailed specifications as the basis for grading positions and fixing salary rates. Such provision, however, is permitted but not made mandatory by the state regulations governing the classification of positions.

AUDIT AND CERTIFICATION OF PAYROLLS.

Payrolls are forwarded to the civil service commission semi-monthly. They are examined and corrected, if necessary, by the chief clerk by comparison with a dummy payroll which is kept up-to-date, and further checked against individual cards of each employee of the city. The payroll is then certified to by the secretary of the commission.

These payrolls show the name, title of position, the kind of service performed, the rate and amount of compensation, the period for which the employee is to be paid, and the certification by the head of the department that the persons named are employed solely in the proper duties of the positions.

It is observed, however, that employees are performing duties wholly inconsistent with the titles of their positions and inconsistent with the class of work which was contemplated for such positions. It is noted that clerks under one title are performing work which should devolve upon clerks of a different title. Night watchmen are used as firemen; laborers are used as boilermen; engineers as janitors, and a chauffeur as superintendent of a garage, etc.

Apparent concrete examples of the foregoing are seen in the following:

Bureau of police—patrolmen—three—at \$1,080 per annum.

(Performing clerical duties involved in the maintenance of files in detective division).

Park department—laborer—\$624 per annum.

(Is spending most of his time mounting specimens).

Water bureau—meter reader—\$960 per annum.

(Is engaged primarily in clerical work, transferring bills from meter reports to book and heading books for treasurer's office).

Water bureau—minor inspector—\$720 per annum.

(Engaged in general office work).

This looseness of control, we are informed by departmental officials, is due to the fact that almost unlimited discretion is given to respective bureau or departmental heads in the assignment of employees and the distribution of work.

It is realized that there must be considerable flexibility in titles in order fully to utilize the services of each employee. A rigid specification of duties is not desirable. At the same time it is equally important that employees under one title should not be assigned to the duties of another title for which they may be wholly unfitted, and which involves the performance of duties not commensurate with their present salary. Furthermore, this practice opens the door to abuse and the perversion of the principles of merit in the selection and promotion of employees.

Suggested Remedy.

To ascertain whether or not employees are being utilized according to the specifications of their positions, periodic or casual field inspections to support and verify the certification of payrolls should be made by the staff of the commission, as the conditions of the office work will permit.

PREPARATION, ARRANGEMENT AND HOLDING OF EXAMINATIONS.

Manner of Preparing and Holding Examinations.

At present the preparation of examinations is divided between the secretary of the commission and outside examiners who, except on rare occasions, render their services gratuitously. Wherever the examination relates to subjects requiring professional or scientific experience or knowledge, an official of the department in which the position is to be filled or some one in private life conversant with the field to be covered is utilized.

It would seem that the practice of placing responsibility for the holding of examinations in a part-time secretary and relying in a large part on gratuitous services in the preparation of examinations is faulty and liable to abuse. The utilization of people in private or public life to assist the commission in its work is not criticised, but it should be

very carefully controlled, and it is believed that the present arrangement is not designed to effect such control.

Content of Examinations and Method of Rating Them.

Scrutiny of representative examinations shows that considerable thought has been given to their preparation. Such scrutiny, however, indicates the possibility of improvement by establishing standard weights for certain parts of the examination and a definite basis or uniform method of rating examinations. The latter, of course, presupposes the working out of specifications for positions or groups of positions in advance of the examinations.

Volume of Examination Work.

The following is a statement of the examination work since January 1, 1915:

Name of Examination	Number of Applications	Number Applicants Examined	Number Failed	Number Passed
Assistant Curator Municipal Museum..	4	4	0	4
Superintendent Playgrounds	7	7	1	6
Supervisor of Lighting and Laboratory.	10	9	2	7
Assistant Engineer on Construction....	1	1	0	1
Inspector of Public Improvements....	51	48	21	27
Assistant Librarian (with library training).....	3	2	0	2
Assistant Librarian (with library training).....	9	9	4	5

In view of the multiplicity of positions in the service and the large number of eligibility lists which have run for a long period, such a small amount of examination work would indicate that there have been retarding factors in the organization of personnel.

Probation.

The civil service regulations now in force provide a three months' probation period. This provision is designed to supplement the results of the entrance examinations. It has led to certification of tentative appointment by enabling the administrator, through a practical experiment, to determine whether or not the examination itself has failed to develop certain elements of unfitness which make it undesirable to retain the applicant in service. This regulation is ignored. A

tentative assignment is final—as far as could be learned—and the commission loses the value of the official's reaction on appointments.

Suggested Remedy.

To correct the present faulty conditions, the following suggestions are made:

- 1—The utilization of gratuitous services should be more completely controlled. This contemplates that, instead of permitting an official or a person in private employment to prepare the examination, he be requested merely to submit appropriate questions; that for important examinations questions be secured from several sources and the civil service commission's examiner be charged with the selection of those questions which shall constitute the examination. In other words, the arrangement and compilation of the examination should, as far as possible, be controlled by the commission instead of by outside agencies not responsible to it.
- 2—Detailed specifications for distinct positions or groups of positions should be set up as a basis for fixing entrance and promotion examination requirements.
- 3—An appointment should, in practice, be made probationary in fact as well as in name, as contemplated by the rules and regulations and the departmental officials. The department head should be compelled, at the end of each probationary period, to report as to the probationer's conduct and efficiency, this report to furnish a reviewable fact-basis supporting each opinion as to whether or not the appointee should remain in the service.

STANDARDS OF COMPENSATION.

A most important defect or weakness in the system of civil service control—a defect which relates back to the improper methods of classification—is the present irregularity and discrepancies in salary rates. The appropriating body has no scientific basis for fixing salary rates or titles of positions. Positions are created without any definition of work requirements. There is little understanding of the departmental needs to be served in connection with the establishment of a new position. Furthermore, standards of compensation for particular kinds of work being prosecuted by the city are not known or observed.

Attention has been directed herein to the prevalence of meaningless and misleading titles, and to the performance of duties wholly inconsistent with the title or classification of the positions. Every department presents striking examples of irregularity in compensation.

Positions with different elements of work and responsibility receive in many cases the same salary rates. On the other hand, the same kind of work is paid widely different salary rates.

Proposed Remedy.

It is therefore recommended that a study be undertaken with a view to the preparation of specifications defining the requirements of the various classes of work being prosecuted by the city, setting up salary grades and rates on the basis thereof, and appraising existing authorized employments of the city on the basis of such specifications.

The completion of such a study is fundamental to a proper regulation and control of the personnel.

SYSTEM OF PROMOTIONS.

Lack of Well Defined Promotional Procedure.

It may be said that there is no well defined procedure governing promotions. Whether or not an open or other competitive examination shall obtain depends upon the circumstances of the individual case. And what shall be the basis of such examination or the terms upon which civil servants shall compete, is also vague and indefinite. There is imperative need for the installation of a comprehensive system of control over advancement and promotion in the service.

Uncontrolled Discretion in Departmental Heads.

An examination of the minutes of the board and discussion with the chief clerk indicates that very large discretion reposes in the department heads with respect to promotions. To illustrate this: It has been shown that, while the civil service commission does not supervise or control efficiency records, a department head is permitted to report or submit an opinion with respect to relative efficiency of his employees, attaching weights or ratings reflecting such relative merit, which invariably determines the action to be taken. Furthermore, it appears that it has become the practice of the commission to waive examination upon special request of a department head.

Lack of Standard Weights for Seniority of Service.

Seniority of service is not made the subject of rules and regulations of the commission under which definite weights or credits are attached for prescribed periods of satisfactory service. As pointed out under the previous caption, it may be recognized in the discretion of the department head. But this practice is pernicious; whereas the former, which is ignored under present practice, should be part of any

equiable system of control over the personnel. Closely related to this defect is the failure of the commission to install a system for the recording of individual efficiency.

Lack of System for Recording Individual Efficiency.

Up to the present time nothing has been done by the commission looking toward the establishment of records which would determine or record the relative efficiency of individual employees engaged in related work.

Without such a system, any scheme of advancement or promotion can afford little protection to the civil servant, or be of any real value to the management. To the former, it is a matter of justice that his individual performance be recorded and given certain recognition in advancement and promotion. To the latter, such individual records are essential to an intelligent apportionment of tasks and the practical application of a plan of reward for efficient service, as well as a scheme of penalty for inefficient service.

Suggested Changes.

The following recommendations looking toward a comprehensive procedure governing promotions are made:

- 1—That, in conjunction with the detailed specifications of work requirements suggested under the previous caption, the positions be so classified as to indicate lines of promotion or advancement, and the requisites for advancement from one salary rate to another salary rate within the grade or from one grade to another grade.
- 2—That the civil service commission install in each department a system of efficiency records which shall be maintained in each department subject to the commission's supervision: that such efficiency records furnish a basis for monthly or quarterly individual ratings.
- 3—That satisfactory service shall be recognized and given certain credit. It is suggested that service groups be classified according to the period over which experience is conducive to higher efficiency and that certain credits be given for the satisfactory performance of work over this period or any part thereof.
- 4—That ratings of individual efficiency and ratings for seniority of service suggested under recommendations 2 and 3 be considered a part of the promotional examination and thus used as a basis of promotion in the service.

REMOVAL, SUSPENSION AND OTHER DISCIPLINARY ACTION

Removals are very few and disciplinary action infrequent. In

connection with the loose system of control now in vogue, this is significant. Furthermore, the city makes no provision for fines, except in the uniformed forces of the department of public safety, and, although it is difficult in the absence of efficiency records to interpret this condition, the experience of other cities indicates that the remedy lies in the preparation and maintenance of records of individual performances. This would give the head of the department or other official who is responsible for management a means of determining the efficiency of his employees, fixing promotion or advancement on a basis thereof, and would furnish the individual himself that assurance of fair treatment and proper recognition which is essential to the most effective regulation of the personnel.

Past experience does not show that injustice has been done the employees. It is clear, however, that the substitution of a positive system of control for the present negative policy would bring desirable results.

THE EXAMINING BOARD OF PLUMBERS.

ORGANIZATION

The Board and the Qualifications of Its Members.

The examining board of plumbers and plumbing is organized and constituted under chapter 602 of the laws of 1892 as amended by chapter 327 of the laws of 1900, which provides that in the cities of the state the board shall consist of five persons to be appointed by the mayor, of whom two shall be employing or master plumbers of not less than ten years' experience, and one a journeyman plumber of like experience. The other members of the board shall be the chief inspector of plumbing and drainage of the board of health or the officer performing the duties of such inspector, and the chief engineer having charge of the sewers of the city. All members of the board must be citizens and actual residents of the cities in which they are appointed.

Term of Office and Compensation.

The term of office of each member of the board is fixed by law as three years from the first day of January following his appointment. Vacancies are filled for the unexpired term by appointment by the mayor.

The master and journeyman plumbers serving as members of such board are paid at the rate of \$5.00 per day for each day's service when actually engaged in the performance of the duties pertaining to the office. In Rochester and other cities of the first class, this compensation must not exceed \$20.00 per month for each person so paid. The ex officio members of the board, namely, the chief inspector of plumbing of the bureau of health, and the city engineer serve without extra compensation.

Proposed Reorganization.

The present board is an entirely independent unit responsible only to the mayor who appoints it. In the general reorganization plan outlined elsewhere in this report, a bureau of engineering of the department of public works is recommended. It would seem desirable to include in this bureau the board of examiners of plumbers and plumbing in order that all related functions may be correlated under a single administrative control.

Clerk.

The board is empowered to appoint a clerk whose term of office expires at the pleasure of the board. The clerk receives a salary of \$360 a year and is required to give a bond of \$500 for the faithful performance of his duties. The bond must be of a form satisfactory to the board and must have two or more sureties each qualifying in double the amount of the bond.

POWERS AND DUTIES.**The Board.**

The powers and duties of the board as set forth in the law may be briefly summarized as follows:

- 1—To meet on the second and fourth Mondays of each month at 8 P. M. unless otherwise ordered, and whenever the bureau of health of the city or the mayor shall in writing request them to do so.
- 2—To have jurisdiction over and to examine all persons desiring to engage in plumbing as employing plumbers, applying for certificates of competency as such employing or master plumbers, or as inspectors of plumbing; to determine their fitness and qualifications for conducting the business of master plumbers, or to act as inspectors of plumbing, so to issue certificates of competency to all such persons who shall have passed a satisfactory examination before the board.
- 3—To formulate, in conjunction with the board of health of the city, or an officer or body performing the duties of a board of health, a code of rules regulating the work of plumbing and drainage in such city.
- 4—To charge and collect from each person applying for examination, the sum of \$5.00 for each examination made by such board; and all moneys so collected must be paid over by the board monthly to the treasurer of the city.

Clerk.

The duties of the clerk may be briefly enumerated as follows:

- 1—To attend at all meetings, and at any time specified by the board.
- 2—To keep the minutes of the meetings of the board, and report at each meeting all complaints, communications, and other business received at the office of the board subsequent to the last meeting.
- 3—To keep in a book provided for the purpose a record of all applications and examinations, and the results.
- 4—To collect and receive moneys due the board, and to keep a record of such receipts and disbursements.

5—To perform such other clerical duties as may be required of him by the board.

The clerk states that he attended all meetings of the board in 1914, although his name is mentioned in the minutes as being present at only five of the forty-five meetings. As it is clearly stated in the constitution of the board that the secretary shall attend all meetings, the minutes of the board should show that he has faithfully performed his duties as prescribed.

PROCEDURE.

Routine Meetings.

Although the law specifies that there shall be at least two meetings of the board each month, it provides also that the compensation of members shall not exceed \$20 per month. This has naturally resulted in the board holding four meetings each month, except when the regular Tuesday evening meeting of the board happened to fall on a holiday, sufficient to bring the compensation of each member, at the rate of \$5.00 for each meeting, up to \$20.00 a month. Criticism of this action on the part of the board is not perhaps warranted, since the board is acting entirely within its legal right and is not exceeding the amount of compensation allowed by law. It is not apparent, however, that there is real need for a board meeting each week. Aside from the meetings for the purpose of examining candidates and for marking and rating examination papers, the business of the board consists chiefly in the consideration of communications from plumbers and from manufacturers of plumbing apparatus, and the transaction of other unimportant routine business.

In 1914 forty-five meetings of the board were held. At these meetings the president of the board was present forty-two times. Another paid member of the board was present twenty-six times, having retired from the board after July 20, 1914. Another paid member of the board was present forty-two times. A paid member appointed to fill the vacancy arising from the retirement of one of the regular members of the board attended only four meetings in 1914, not having been appointed until December, 1914. The chief plumbing inspector, as ex-officio member of the board, attended all meetings, but the engineer was not present at any of the meetings during the year.

Compensation of Members Not on Attendance Basis.

Although the law specifies that each member of the board shall receive compensation at the rate of \$5.00 a day for each day's service when actually engaged in the performance of the duties pertaining to

the office, the annual report of the board for 1914 indicates that the members of the board were paid at the rate of \$20.00 a month regardless of the number of days spent in actual service. The members of the board who received \$240.00 each, actually attended only forty-two meetings of the board and were therefore entitled to but \$210.00 each on the \$5.00 a day compensation basis. Another member who attended twenty-six meetings received only \$120.00 instead of the \$130.00 to which he was entitled. The fourth member attended four meetings and received \$20.00 for his services.

So long as the law specifies that the rate of compensation shall be \$5.00 a day, this rate should be rigidly adhered to. The secretary should present in his annual report a statement which may be verified by the minutes showing the number of days of actual attendance of each member and the amount due to him on a \$5.00 per diem basis.

City Engineer Should Attend Meetings.

The minutes of the board show that the city engineer, who is an ex-officio member of the board, was not present at a single meeting in 1914. No legal responsibility for such attendance is imposed upon him, and yet there is reason why he should attend. The determination of the competency of plumbers is of considerable importance in so far as the control of the city's sewer system is concerned, for faulty connections of house plumbing systems with the city sewer system due to incompetence of plumbers might mean serious loss to the city and serious disturbance of the city engineer's program. It is therefore recommended that the city engineer, or a competent assistant or deputy from the city engineer's office, regularly attend the meetings of the board.

Method of Marking Examination Papers Faulty.

Before taking the examination before the board, a plumber must file with the board an application in which he states, under oath, his full name, residence, term of residence in the city, his citizenship, the name of the parties, firms or corporations in whose service he has been, and his business or employment during the five years immediately preceding the date of application, as well as the number of years during the five years immediately preceding the date of application in which he has been engaged in the business or calling of plumbing.

The examination consists of twenty-five questions, to which the candidate must submit answers in writing. These questions are selected by the board from a list of 239 questions which are on file in the office of the board. In addition to the written test the applicant must draw

from five plumbers' plans, which are submitted to him, the proper plumbing connections for the plumbing systems indicated in the plans. A credit of three is given to each one of the written questions, and a credit of five to each one of the drawings. The passing mark is seventy-five, one hundred being perfect. It is therefore possible for an applicant to answer correctly all of the written questions which are asked and pass the examination, although he may fail absolutely on the drawings, and the president of the board states that if the applicant passed the written test with a mark of seventy-five, he would be given his certificate of competency whether or not he was successful in the test of the drawings.

The list of 239 examination questions which is on file in the office of the board has been gathered together during the past twenty-two years. The original list of ninety-two questions was prepared in 1892, and was based largely upon the plumbing regulations then in existence. Since that time some questions have been added and some changed to meet present requirements. With very few changes, however, the original ninety-two questions are still in use. Although the questions are apparently well selected, it is more than probable that any ordinarily intelligent person with a fore-knowledge of the questions could pass the examination by careful "cramming." It is also probable that this entire list of 239 questions is very well known to the plumbers of the city, because of the fact that practically the same list has been in use for so many years.

Method of Selecting Questions Should Be Changed.

Prior to the evening set for the examination, the board meets and determines upon the particular twenty-five questions out of the 239 which shall be used in the examination. The entire list of questions, which are numbered one to 239, are gone over and certain questions selected which are indicated by number, as "5"—"27"—"31," etc. The plumbers coming up for examination know positively that the questions which they must answer are to be taken from the regular list which has been used over and over again without even any considerable change in wording. Assuming that the members of the board are themselves competent master plumbers, with the advice of the chief plumbing inspector and the city engineer, it should be not only possible but practicable to examine each group of candidates by questions not stereotyped, but especially chosen for each examination. Copies of these questions could be kept for reference by the board, but an effort should be made to prevent repetition either in form or sense of the questions submitted to candidates. It would then be impossible for candidates to determine with any degree of accuracy what questions were to be asked.

Practical Test Desirable.

The business of plumbing is preeminently a practical one. A plumber who is sound in theory but lacking practical ability is not only a costly plumber but often a dangerous one. It is suggested, therefore, that plumbers be put to a practical test which will demonstrate their ability to handle plumbers' tools and direct others in their use. They should be required to demonstrate their ability to perform the various tests of plumbing; to make proper connections and to seal joints properly. These matters can only be demonstrated by a practical test.

Rating of Candidates.

Each candidate is required to submit his name in a sealed envelope, which bears the same number as his examination paper. The papers are then rated by number, the name of the individual not being disclosed until the rating is completed. All members of the board, including the chief plumbing inspector of the bureau of health and the city engineer as ex-officio members, must approve the ratings or waive their rights to such approval. The president of the board states that it is customary to send the papers to the city engineer with the request that he approve the ratings or waive his rights with reference thereto. This is, however, only a matter of form, since the city engineer does not attend the meetings of the board.

When the candidates have all been rated according to the numbers of their examination papers, the envelopes containing their names are opened, and the names of all candidates with their ratings are entered in the minutes.

Candidates Should Not Be "Squeezed Through."

The clerk of the board states that the board endeavors to rate the candidates fairly and upon their merits, and that if a man gets a mark just under seventy-five they try to raise him a point or two on certain questions so that he may attain the required grade or, as the clerk says, "squeeze through." If he fails to pass, however, and desires to appeal he may do so, whereupon the board goes over each question with the candidate and rerates him providing a rerating is deemed proper. While the right of appeal on the part of the candidate cannot be gained, it is believed that the practice of trying to put a candidate through who is just under passing grade is as improper in the case of such a man as it would be in the case of the man who stood only fifty. If the candidates are fairly rated, and we may assume that they are, there should be no attempt to "squeeze" through any of them. If

any man thinks that he has been unfairly dealt with he has the right to an appeal, and this should be sufficient.

Licensing of Plumbers.

Each candidate receiving seventy-five or over on the examination receives a certificate of competency. This certificate he must present to the health bureau, which issues a license and registers him as a licensed plumber. He is also required to give a bond with the street department in the amount of \$2,000. Under the law no person may carry on a business as an employing or master plumber without this certificate of competency and without, in addition, registration with the board of health.

A license may be cancelled for violation of rules and regulations by the board of health after prior notice of not less than ten days, stating the ground of complaint and served on the person charged with the violation. Such revocation is, however, not operative unless concurred in by the local board of examiners. Revocation of license does not carry with it annulment of the certificate of competency, and the individual reappears for license before the health authorities.

The procedure of license issuing and registration as above outlined is fixed by state law. The license which is issued by the health bureau is in fact only a certificate of registration. These so-called licenses or certificates of registration issued by the health authorities, as well as the certificates of competency issued by the board of examiners, are quite elaborate and imposing affairs. Obviously, however, the most important document is the certificate of competency. This need be nothing more than a simple statement, printed on paper suitable for framing, to the effect that the plumber has been examined by the board and found competent. The license or certificate of registration need be merely a typed statement signed by the proper health official to the effect that the plumber has duly registered his certificates of competency as required by law.

Trap Tests.

Once or twice a year (once in 1914) tests are conducted by the board upon samples of traps submitted by the various manufacturers. Each trap is tested separately and rated according to material, size, maximum, depth of seal, weight of seal, weight of water, weight to seal, weight of reseal, depth of reseal. Upon the completion of the test, which occupies an entire afternoon and evening, the manufacturers of the traps are informed as to the board's approval or disapproval of the traps submitted by them.

RECORDS AND REPORTS.**Minutes and Examination Record.**

The secretary keeps a book of minutes of the meetings of the board and also a record of the various examinations held, and the rating of candidates.

Financial Reports.

The annual report which is submitted to the mayor is a very brief statement of the receipts and expenditures of the board for the year, the number of applications received, examinations and trap tests held. The annual report for 1914 follows:

Applications received.. .. .	45	
Examinations held	5	
Number of candidates	43	
Number of trap tests held.....	1	
Received for application fees.....	\$215.00	
Appropriation allowed		\$1,520.00
Expenditures:		
Salaries:		
Hillyard	\$240.00	
Fladd	240.00	
Morgan	120.00	
Dodge	20.00	
Secretary O'Kane	360.00	
	\$980.00	
Delegates' expenses to convention	89.16	
Office supplies	224.83	
Total expenditures		1,293.99
Unexpended balance of appropriation		\$226.01

Number of certificates issued—total to date—191.

A monthly return of the receipts of the board from the application fees of candidates for license is made to the comptroller, all money received from this being turned into the city treasury.

BOARD OF EXAMINERS OF STATIONARY ENGINEERS.

Organization and Functions.

The board of examiners of stationary engineers is composed of three members appointed by the mayor for a term of three years. The members of the board elect one of their own number as president.

The functions of the board are to regulate the practice, by examination and license, of engineers of stationary, hoisting, and portable engines, and to make the necessary rules and regulations to govern such examination and license. Such rules and regulations as may be made by the board are submitted to the common council, which has to pass them as ordinances to make them effective.

The board is required by its constitution to meet at least twice each month, but the rules and regulations adopted by the board require a meeting each Wednesday evening.

Procedure of Examination.

According to the ordinance adopted by the common council May 28, 1914, "every applicant for a stationary engineer's license must apply therefor in writing to the board of examiners of stationary engineers, stating his name and address, experience in operating steam boilers, and whether he desires an oral or written examination. The board shall give an oral or written examination as stated by the applicant in his application."

The examinations in the majority of cases have been oral examinations. The opinion of the board is that an oral examination is sufficient to bring out whether a man is qualified for the position. The fitness of the applicant is determined by a vote of the board, the majority ruling. Any member may conduct an examination when the board considers such procedure necessary to expedite matters. No record is kept of these oral examinations.

Need for Written Examinations and Complete Record Thereof.

If the applicant for examination cannot read or write, as may be the case, and yet evidently be able to run a stationary engine, it would be an obvious injustice to require that he pass a written examination. This is a matter which should be left to the discretion of the board. In all other cases, written examinations should be held, and the candidates should be marked on their papers by all the members of the board

in conference. Written examination papers submitted should not contain the name of the applicant. They should be merely designated by number. The applicant should hand in with his paper a sealed envelope bearing a corresponding number and containing on a slip of paper the applicant's name and address. When the ratings have finally been made by the board these envelopes should be opened and the applicants notified of their ratings.

Although an applicant who fails has the right to make reapplication and be re-examined within thirty days from the first examination, in each case a record should be kept of the questions asked the applicant and the answers given by him. If an oral examination is necessary, a stenographer should take down the questions and answers, so that they may be laid before the entire board for scrutiny and discussion. Without such a written record the applicant has no protection, for his passing or failure might depend altogether on his personal relations with the examiner. The approval of examinations should not rest upon the determination of any member, but in every case it should be a matter for the consideration of the entire board.

Opportunity should be given an applicant to review his examination papers before the members of the board. Without a complete written record of such examinations, review would be impossible.

Need for Practical Tests.

No practical tests are given the applicants for license, although the operating of engines is a practical matter. A man might be thoroughly grounded in the theory of running a stationary, hoisting, or portable engine, but fail utterly in putting his knowledge into practice. It would seem advisable, therefore, that in every case the examination should include a practical test which will demonstrate the familiarity of the applicant with the kind of engine which he desires to operate. To give such practical tests would be difficult if the men were examined singly, but arrangements could easily be made for holding these examinations at stated intervals so that there would be large classes at each examination. Examinations might be held every three months. This would mean the examination of approximately thirty to forty applicants at a time.

Rules and Regulations Should Be Printed.

Aside from the publication of the rules and regulations as ordinances in the usual way in the daily press, there should be printed and bound copies of the rules and regulations available for use by candidates for examination and licensed engineers. Violations of the ordi-

nances are punishable by fine or imprisonment, and are rightly regarded as serious offenses since they may result dangerously to the public. Every effort should be made to make stationary engineers and applicants for license as such thoroughly familiar with the law and with the rules and regulations governing their practice.

Improved Administrative Control Recommended.

The board of examiners of stationary engineers is now an entirely independent organization responsible directly to the mayor. It is obvious, however, that nothing more than a nominal control can be exercised by the mayor over the administrative procedure of this board because of the numerous other more important administrative duties with which he is charged. It is, therefore, recommended that the board of examiners of stationary engineers be placed in the bureau of engineering of the department of public works. In the reorganization of the department of public works, as suggested in the report on the department of public works, the bureau of engineering would have charge of building inspection. The board of stationary engineers should, therefore, act as a staff agency to the bureau of engineering in the regulation of stationary engineering in its relation to problems of building construction and operation; and such inspection of boilers and engines as might be desirable could be provided in the force of the bureau of engineering.

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